# MARINE RECORD

ESTABLISHED 1878.

VOL. XXII, No. 14. CLEVELAND---APRIL 6, 1899---CHICAGO. $2.00 Per Year. 5c. Single Copy


## LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

PRESIDENT.
FRANK J. FIRTH, Philadelphia.

1ST VICE-PRESIDENT.
CAPT. THOS. WILSON, Cleveland.

SECRETARY.
CHARLES H. KEEP, Buffalo.

TREASURER.
GEORGE P. McKAY, Cleveland.

COUNSEL.
HARVEY D. GOULDER, Cleveland.

### TUG BOATS AND TOWING.

A good tug boat can go anywhere or do anything and the next best thing to the craft herself is the man that handles her. Tug boats may easily be classed as the sinews of commerce and transportation where water borne traffic frequents. Scarcely any men have a more active and dangerous life than the tugboatmen.

If there is a channel to be forced through the ice a tug boat is sent out to be the catapult; if there is a stranding, breakdown, abandonment, wreck or a ship on fire, a tug boat speeds to the rescue. Many of them are equipped with apparatus for salving cargo and risks are taken which would make most people tremble at the bare thought of the possible consequences.

Not even the excitement of laying a vessel fourteen times bigger than his own against her wharf, with a strong tide running, fills the measure of the tug man's joy, in fact, he'll tackle anything that there is money in, and he can push his little puffer at, ahead, alongside, on the quarter, astern or anyway to accomplish desired results.

There are all sorts of grades, or rather classes of tugs. The United States furnishes a greater variety than any other country; that is, if we take in the Atlantic and Pacific coasts, the Lakes, Rivers and Gulf ports. There are all sorts and condition of tow boats and tugboatmen. As a class the men are as skillful and proficient in their calling, and perhaps a little more so, than the majority of those engaged in any other occupation, and let it never be forgotten that they invariably carry their nerve with them, and, as we have said, they are always prepared to tackle anything that there is money in, nor are they ever at a loss to name their price, according to the exigencies of the work involved, in fact, they rather court danger and distress, that is, to others.

A tugboatman desires nothing better than to have his services made absolutely and imperatively necessary. He then becomes the rescuer, saviour, doctor, or what you will, but he is all there when wanted, and in making a virtue of necessity he is never lost for an alternative when in the way of making money, for he does not always earn it, unless it may be considered earned by accepting an imminent risk and thereby gathering in a windfall of doubloons.

To the best of our knowledge at this writing, Liverpool, England, produces the most powerful tug boats afloat, two of these which we have now in mind are the large powerful twin screw tug boats, Stormcock and Gamecock. These craft walk away with the slack of an island (a floating one) and never let go anything that they can get a line aboard of. The majority of tug boats out of that port, however, are side-wheelers and they are usually handled in gales of wind, a sea-way or in strong currents, like a top, made to do anything, so to say, except talk, and even this they might attempt if the men that handled them couldn't do enough of that at the proper time themselves. Some extraordinary ocean towing is to the credit of the Liverpool fleet and a log of the several most important voyages made by these tugs would no doubt prove very interesting reading to a large number of people.

Returning to the tug boats of the United States. The longest trip on record was made from New York to Central America when the Haviland and Hyperhausen took the scows and dredges of the Nicaragua outfit to their destination, yet, as a specialty and a feature which eclipses all towing records, and essentially an American innovation, is the successful towing of immense rafts of timber along the Atlantic and Pacific coasts. Each year sees vast improvement in the construction, dimensions and equipment of tow boats, nor are the lakes a whit behind the age in recognition of the advancement made necessary for this class of tonnage through the increased volume of commerce and size of modern cargo carriers.

There are millions of dollars invested in the United States tug boat industry, nor can a port be a port without a fleet, or two or three of them, to attend to the shipping frequenting its purlieus, if the port is of any pretentions.

### A SIX-MASTED SCHOONER—LARGEST IN THE WORLD.

Capt. Arthur L. Crowley, of Taunton, Mass., master and managing owner of the five-masted schooner John B. Prescott, the largest schooner in the world, has decided to beat his record. He has contracted for a six-masted schooner for the coal trade between Baltimore and other coal ports to New England ports. The six-sticker is to carry 5,500 tons of coal and to cost $100,000. When completed she will be the only vessel of her type in the world. The John B. Prescott, which Captain Crowley now commands, will carry over 4,500 tons of coal. Her greatest cargo during the late severe winter was 4,215 tons, loaded at Philadelphia.

### THE ALGIERS FLOATING STEEL DRY DOCK.

Rear Admiral Endicott, U. S. N., of the Bureau of Yards and Docks, when asked this week relative to the commencement of the work upon the steel dry dock at Algiers, La., for the construction of which the contract has been awarded to the Maryland Steel Co., replied that the contract, although awarded, had not been signed, as the department is awaiting some supplementary plans which are being procured from England. The contract requires that work upon the dock shall commence twenty days after it is signed. Much of the work will be done at Algiers, as the Maryland Steel Co. has already requested the use of the entire government reservation there, but it has not yet decided whether the hull of the dock will be put together in the Chesapeake and floated to Algiers, or whether the plates will be shipped to Algiers and put together there. This new steel floating dock will be the largest of its kind ever built in this or any other country and will be capable of receiving a 15,000-ton battleship.

AN hydraulic press, said to be the largest yet constructed, was recently completed at Parkhead Forge, England, after having been three years in construction and erection. This press, which is to be used in the manufacture of armor-plate, is capable of exerting 12,000 tons pressure. The weight of the machine is 42 tons. The clearances are 15 feet in width and 13 feet working height. Power is supplied by four sets of coupled compound condensing engines with cylinders 21 inches and 43 inches in diameter. There are 68 pumping rams 1 11-16 inches diameter for delivering water to the main cylinder of the press. A bed of concrete weighing 330 tons and 1,125 tons of brickwork are in the foundation for the press.

### AN ERA OF SHIPBULLDING AND INDUSTRIAL PROSPERITY.

That the United States has entered upon a great shipbuilding era is the firm conviction of every builder in the country, and that there is nearly $60,000,000 worth of ships now building in shipyards of the United States is borne out by statistics. With new markets opening in the West Indies, Hawaii and the far East, our steel production leading the world, and millions of capital awaiting investment, it is no wonder the shipowner, shipbuilders and steel makers predic a prosperous new era in shipbuilding, and express the be lief that we will one of these days lead the world in shipbuilding as we once did and as we now do in almost everything else.

It is stated, though we are not prepared to vouch for the entire accuracy of the assertion, that our domestic water commerce, coastwise, Great Lakes, rivers and canals, is by far the largest in the world, and is two and a half times greater than that of the United Kingdom, second on the list.

Once England's peer as a builder of wooden ships, this country is now on the way to become her peer as a steel steamship builder. Early in the twentieth century the United States will probably regain her old position in the ocean carrying trade, and as the decline of our shipping dates from the civil war, so will the rise of our shipping date from the Spanish war.

British shipbuilders are now ordering hundreds of thousands of tons of steel plates from American markets. Harland & Wolff, the great Belfast builders, gave the Illinois Steel Company an order for 100,000 tons in the fall. The Carnegie Company is making heavy shipments to the Clyde, while the exports from the Birmingham district are increasing rapidly. Nothing has done so much to call popular attention to the American shipbuilding question as these shipments of American plates to British builders.

Along with the ship plates we are sending machinery and tools to the foreign shipbuilders, for they have found that we make better and cheaper machinery and tools for use in shipyards than do their own manufacturers. Our tool makers are loaded down with foreign orders. What with American machinery and tools shaping American steel into British ships, it is not strange that there is fear in England of a boom and a final supremacy in shipbuilding in the United States over that of every other nation.

### A LARGE SHIPBUILDING PLANT.

Judging from a dispatch received March 31, the New York Ship Building Company, which is the name of the corporation which proposes to establish a shipbuilding plant and dry docks on the Atlantic Coast, will locate at Cooper's Point, adjacent to Camden, N. J. The properties which have been secured by the company have a river frontage of 2,575 feet and cover 70 acres of land. The company, it is said, has secured these properties and will erect a plant which will give employment to 5,000 hands. The site of the proposed shipyard is nearly opposite Cramps' yards in Philadelphia. Henry G. Morse, formerly president of the Harlan and Hollingsworth Company, of Wilmington, is at the head of the new company. The capital is said to be $3,000,000.

NICKLE steel is being tried with much success as a material for marine engines and boilers. Owing to its ability to resist the action of salt water it is found to be superior to other kinds of steel for marine construction. Hollow shafts in the ocean "greyhounds" are found to be much stronger when made of this alloy than when made of any other kinds of steel.

# NEWS AROUND THE LAKES.

## CHICAGO.

*Special Correspondence to The Marine Record.*

The first clearance of the season from this port was the steamer Louis Pahlow, for Thompson, Mich.

The Milwaukee Tugboat Co. has sold through John W. Warner, of Cleveland, the Veronica and Amboy. The Tonawanda Furnace Co. are the purchasers.

The steamers Maryland and Manchester, of the Inter Ocean Transportation Co., are under charter for the season to deliver ore at South Chicago from Escanaba.

The Stephenson Lumber Co. have sold the barges Alert and Advance to Leathem & Smith and Capt. Packard of Sturgeon Bay, Wis. These two barges will probably be consorts of I. N. Foster.

The Milwaukee life-saving crew has been ordered to prepare for service, and on midnight of April 4 Capt. Carland and his eight men will begin duty. The crew will be the same as that of last year.

The Goodrich Line steamer Atlanta has opened the season on the Grand Haven route. In Muskegon, ice twelve inches thick was encountered and dynamite was used to clear a way through the heavy pack.

Duluth brokers state that while there was but very little inquiry for grain carriers at the head of the lakes they felt satisfied that the rate on wheat to Buffalo would go to three cents before the opening of navigation.

The Lake Seamen's Union elected Harold Linholz as chairman and treasurer for the coming year and William Penge as secretary. On schooners the rate for seamen was fixed at $1.50 a day and on barges, $1.25.

Coal shippers are doing quite a little hustling, but it cannot be learned that any business is being done. Vesselmen are confident that the contract rate on coal to the head of Lake Superior will be thirty cents. To some of the Lake Michigan ports fifty cents is being asked.

In the matter of George Winterstatter et al. vs. the schooner Penoke, her boats, etc., the application of the Chicago Isurance Co. et al. for leave to participate in the distribution of surplus proceeds of sale was heard in the United States District Court at Detroit and the prayer of the petitioners denied.

George Bermond, who represents Schider & Co., of Le Creuset, France, is making a tour of inspection of the lake shipyards for the purpose of seeing how they are conducted. He says he has been much impressed with the facilities for doing good work quickly, and has many words of praise for the ship building industry in this part of the country.

Leatham & Smith have leased the big barge Jos. L. Hurd to H. W. Koch & Co., for the season of navigation for 1899, to be used in freighting lumber. Capt. John Walker will be in command of the Hurd, as last season, and Geo. Kester, chief engineer. Leathem & Smith have also secured a big contract to freight lumber, on which the tow barge Eveline will be employed.

The People's Transportation Co., whose formation has just been announced, will operate the steamer Lawrence between Milwaukee, St. Joseph and Benton Harbor under a contract entered into with the St. Joseph, South Bend & Southern Railroad Co. It is proposed to place several steamers on the route, but the business will hardly warrant such a move—at least for the present, as the route is excellently well covered.

The South Chicago Furnace Co. is the name of the newly organized concern which has bought the plant of the Calumet Iron & Steel Co., at South Chicago and will put it into immediate operation, employing between 1,000 and 1,200 men. The company is organized for the manufacture and sale of iron and steel, and has a capital stock of $300,000. The officers are: President, W. L. Brown: vice president, D. M. Cummings; secretary and treasurer, B. W. Wells.

On Friday last the Lake Michigan Car Ferry Transportation Co. caused a libel to be filed against the steamer Parks Foster to secure the payment of a damage claim amounting to $500. On November 4 last, just outside of Milwaukee harbor, the Parks Foster ran between the tug S. M. Fischer and her car carrying barge, breaking the steel towing cable and doing other damage. Carelessness on the part of the steamer is alleged by the libelant.

Suits in admiralty, in which the libels aggregate almost $75,000, were filed in the United States District Court by Wiley M. Egan and others, owners of the steamer City of Rome. The defendants named in the several suits are insurance companies. The steamer left Buffalo for Chicago December 11th, and on the following day was caught in the ice on Lake Erie and sprung a leak. The insurance companies denied liability for the loss, and refuse to pay the policies.

Judge Christian C. Kohlsaab, recently appointed U. S. district judge at Chicago, began his career on the bench by trying admiralty cases. One of the important cases coming before him was the case of the owners of the schooners Mead and Mediator against the steamer Kalkaska for the stranding of the vessels and cargoes on Sept. 18, 1898, near Eagle river, Lake Superior. The case excited much interest and the court room was filled with masters and mates and during the entire trial the nautical terms were all new to the judge and he manifested great interest in learning the nautical points of the case. The libelants were represented by Messrs. Nickerson, Carpenter, Richberg, while Mr. C. E. Kremer looked after the Kalkaska's interest.

Capt. Calbick has bought the steamer J. H. Prentiss and barges Middlesex and Halsted. Whether he negotiated the transfer for other parties or will handle the fleet himself is not yet known.

A movement is on foot to have the gas buoy which marks Lansing shoal during the season of navigation transferred to Simmons reef and the Simmons reef lightship shifted to Lansing shoal. Captains who use the north passage to and from the Straits claim that the proper place for a lightship is on Lansing shoal, while a gas buoy on Simmons reef will serve every purpose. The naval officer in charge of the lighthouses, lightships and buoys on Lake Michigan will be petitioned to make the change, after proper representations have been made to the Light-House Board.

It is not expected that any steamer will arrive here from the lower lakes until May, or late in April, judging from the reports from the various lake ports and from the Straits the prediction seems conservative. The Straits are not expected to open until May 1, which is said to be the latest they have opened in the past twenty-five years. Last year the steamer Fred Pabst, going down, passed Mackinaw at 4:15 o'clock in the afternoon of April 2. She was followed soon after by the William H. Wolf. The first boat to arrive at Milwaukee last season from Lake Erie was the Bulgaria, on April 5.

The Lydon & Drew Co. will dredge and take out the kinks in Chicago river for $128,000. Other bidders were the Green Dredging Co., S. O. Dixon, of Racine; the Star Construction Co., of Chicago, and the Fitz Simmons-Connell Co., of Chicago. The bids include about 260,000 cubic yards of dredging and the construction of 4,800 feet of docks. The successful bid is 16.9 cents a cubic yard for dredging and $18.15 a linear foot for dock work. Seventeen kinks are to be taken from the Chicago river, and when the work is done tug boat men and steamboat captains will have less cause to complain.

The Federal Steel Co. has decided to build two large steel tow barges, to be ready for service at the opening of navigation next season. The contract, it is said, was practically closed when the steamers Pennsylvania and Texas were bought from A. B. Wolvin and others. The barges will probably be towed by the above named steamers. The new boats will practically be duplicates of the barge now building for the Minnesota Steamship Co., of South Chicago. They will be 436 feet long, 50 feet beam and 28½ feet deep. The boats will be built by the Chicago Ship Building Co., at the yards at South Chicago.

## CLEVELAND.

*Special Correspondence to The Marine Record.*

The steel steamer building at the Lorain yards of the Cleveland Ship Building Co., to the order of the Wilson Transit Co., will be launched on Thursday, April 13.

The small schooner Rival cleared with coal for Windsor, Ont., on Tuesday, but owing to the ice drifting across the entrance to the port, she had not got away up to Wednesday afternoon.

Advertisements are out for the construction of a wharf for a new life-saving station at this port, the bids are to be opened, according to particulars sent the RECORD, on Thursday, April 13.

The opening of navigation is slightly behind last season vessels having passed here bound to Buffalo before this date last year. If the regular opening occurs about April 20, it will be the average date.

Martin Connors the well-known master, porter and stevedore, has secured a contract from the Lake Carriers' Association to do all the shoveling and unloading of this port for the season. The price will be $2.50 per 1,000 bushels.

A meeting of the executive and bill of lading committees of the Lake Carriers' Association will be held at the office of Capt. James Corrigan next Tuesday morning. Some very important matters will come up, and a number of out of town members are expected to be present.

The H. B. Tuttle, Abercorn and A. Y. Gowen have made a couple of trips to Kelley's Island for limestone. The return trip this week saw them caught in the ice off the port, and the trio had an all day job in working about a mile through the packed ice, although the side-wheel D. & C. Line steamers are in daily service.

The Shipmasters' lodge held their last social of the season at their parlors on Water street, Wednesday evening. After lunch was served, a sextet, composed of Captains Will and Charles Benham, Byrns, Jones, Morris and Carr, sang "Annie Laurie" and "Old Folks at Home" to an appreciative audience. Capt. Claude Ennis distinguished himself by leading a chorus of mixed voices. Capt. Jones proved himself to be an accomplished soloist, and delighted all present by singing "Pat in the Army." Capt. Byrns then gave a bass viol solo. His rendition of "The Heathen Chinee," with variations, was indeed a revelation. Capt. Clint. Ennis also gave a bass viol solo, playing "The Storm" with wonderful expression and accuracy. Capt. Greenlee, as a song and dance artist, proved himself to have no equal. The cake walk was one of the many attractions, Capt. Claude Ennis and Miss Brown "taking the cake." The last number on the programme was the singing of "My Old Kentucky Home," by Mrs. Allen, assisted by Captains Byrns, Holmes, Grans and Jones. Dancing was then indulged in until a late hour, when all departed wishing the shipmasters success in their summer's work and a safe return to their homes in the fall.

The many friends of Mr. Wm. M. Fitch, secretary of the Cleveland Ship Building Co., will be pleased to learn that he is progressing very favorably towards complete recovery after his serious accident in being jammed between street cars while trying to board one. Mr. Fitch has a host of friends in the marine community.

Masters and engineers are being sent from here to fit out craft lying at other ports, quite a number have left this week although there are boats that will not be touched for about ten days yet, fitting out as well as laying up no longer takes the time that was allowed formerly, and this, perhaps, is one of the more recent economies practiced by lake vessel owners.

The freight market is strong all around. The coal and ore situation is about the same as it has been for the past few weeks. Vesselmen are holding firm for fair rates of freight on coal, and shippers say that they will not make season contracts at the vesselmen's figures. If all owners would make the same charter rates then coal shippers would know what they were doing.

It is now being figured on to launch the new steel steamer Henry W. Oliver on Thursday next, April 13. Her general hull dimensions are 464 feet over all, 444 feet keel, 50 feet beam and 29 feet molded depth. The Oliver has been built at the Lorain yards of the Cleveland Ship Building Co. to the order of the Wilson Transit Co., of this port; Capt. Thos. Wilson, managing owner.

Capt. James Corrigan has made the following appointments: Steamer Bulgaria, captain, John McArthur; engineer, John Blaubelt. Steamer Caledonia, captain, Robert Donaldson; engineer, James Cummings. Steamer Italia, captain, J. W. Brian. Barge Amazon, captain, F. B. Cody. Barge Australia, captain, Harvey Peters. Barge Polynesia, captain, F. D. Perew. Schooner Tasmania, captain, J. F. Higgie. Steamer Aurania, captain, A. H. Gain; engineer, J. P. Klasen.

The following members will constitute the crew of the local life-saving station this season. Keeper, Capt. C. E. Motley; surfmen, David Sullivan, Peter Coughlan, George Warner, Daniel Mulcahy, Frank Burbank, Eugene Butler, Philip Everly, Job Sherly. Surfman Frank Burbank was given a leave of absence last season when men were wanted to join the navy, he shipped on the Algonquin, built by the Globe Iron Works Co., for the revenue cutter service and later transferred to the navy, having been honorably discharged at the close of the war, Burbank has now been reinstated in the life-saving service.

A meeting of the ore dock managers was held at the office of M. A. Hanna & Co., on Tuesday. The meeting was called for the purpose of fixing the ore handlers' wages for discharging cargoes. All the managers were in favor of advancing the wages of the men, and to do that it was necessary to mark up the cost of unloading ore from the vessels. The rates decided on are the same as they were in 1896. The men on the Cleveland docks will be paid at the rate of 11 cents a ton for shoveling ore, and the men at the other ports will receive 10 cents a ton. This is an advance of 1 cent all around. The charge to the vessels will be 16 cents a ton this year.

Gaining some information about the work on the new west pier, I find that it is not going to be a complete job after all. The improvement was first mooted in this column, that is to say, the suggestion was made that a new pier placed about 100 feet west of the present one and given a concrete superstructure was what was wanted. Now it appears that they are going to chop about 100 feet off the inner end and build a house on piles for the life-saving crew to live in and house the life-boats. Of course surfmen are amphibious, they can live on, in, or about the water, but no doubt like the Kentuckians, they want to have it straight. The life-saving station built on piles in a gap of the concrete pier will be an eye-sore, moreover, it will be a rheumatic breeding habitation, and we all know that the late keeper, Capt. Goodwin, had enough of that, question if it didn't end his days, as he was otherwise a very robust man. I had thought that there was more paternalism, so to speak, about our "Uncle Sam," than to think of placing his brave boys on the rack—rheumatic rack—thumb-screw drill might be got over, but when it is placed on every joint "Oh Lordy." Well! I suppose as Jack says "She's got to go," and the Cleveland crew? well! growl they may, but live there they must and that for about three-fourths of the year if such is the ruling and law of the maids and parsons which cannot be altered.

THE Belt Line elevator, W. Superior, Wis., the last house at the head of the lake which could take any wheat, closed its doors to further consignments this week and not a bushel more can be brought to this point. The railroads have sent the necessary orders to the west to prevent the billing of more cars to Superior, and the situation will remain as it is until the opening of navigation, which will probably be in about five weeks.

## BUFFALO.

*Special Correspondence to The Marine Record.*

The compilation of the Inland Lloyds register is completed and will be issued in a few days.

The 1899 time schedule for the Northern Steamship Co.'s boats North West and North Land has been decided upon. The first boat will leave Buffalo for Lake Superior Tuesday, June 13.

There was a good demand for grain carriers at the head of Lake Superior this week, and the rate from Duluth to Lake Erie ports was advanced to 2¾ cents, which is equal to about $1.02 on ore.

It is stated that the Great Northern Railway Company (Hill's Line) The Northern Steamship Co. of the lakes, will build six ships to give a monthly service between Seattle and Yokohama and Hong Kong, with others to Vladivostock.

As usual, the ice is packed rather heavy at this end of the lake and extending up as far as Erie. From all indications at present it will take at least the next fifteen days, even if the weather is fairly moderate, to honey-comb the mass of freeze that shows off this port just now.

So they are going to cut down the wages of surfmen five dollars per month. The Life-Saving Service must be getting poor. Congress granted a stated rate of pay and the surfmen deserve every penny of it and they would only be receiving about two-thirds of a local fireman's pay. If the city of Buffalo can give adequate payment to its servants, surely the United States ought to.

Hingston & Wood have loyally named their big dredge the Pan-American. It is the largest of its class in the world, and will be used on the firm's contract at Portage Lake. It will dig over 700 yards of earth in an hour, and cost about $75,000. The machinery alone weighs more than 400 tons, and there is over 250,000 feet of timber in it. Just as soon as the lakes are open tugs will take the dredge to its destination, for the work must begin by May 1.

George F. Somerby, president of the Niagara Elevating Co., is president of the new elevating association formed by the twenty-one Buffalo elevator companies with rail connections. The rate for elevation will be the same, no matter to which of the elevators the grain may be consigned. There will be a uniform rate of half a cent a bushel. Vessels will not be compelled to wait their turn at a single elevator, but will enjoy the benefit of what will be to all intents and purposes an open port.

An immense quantity of rock fell with a crash from the Niagara cliffs on the American side, just north of the railway steel arch, early last Friday morning. The rock that fell was a ledge that projected about 30 feet over the cliff, and weighed many thousands of tons. The slide carried with it a portion of the new elevator and completely demolished the old Butlery elevator. The rock completely covers the Gorge road, and in its fall tore the tracks up for some distance. It will take a great deal of blasting to remove the pile of rock that completely covers both tracks. It is supposed the slide was caused by blasting for an outlet for the sewer system. Luckily the slide occurred at an early hour before the men got to their employment on the works.

Vessel agents during the week past chartered the steamers Armour and Oades for salt to Chicago and South Chicago at thirty cents. This about fixes the coal rate, for it pays the same as salt. There is no move to load coal, except that the Erie line will slowly load its own steamers, one having been ordered to their dock to begin loading. Most of the shippers have no coal whatever for lake shipment, and do not look for any right away. Anthracite is mined very slowly, with a determination not to get ahead of the demand. The steamer Hadley fueled up this week at Frank Williams & Co.'s dock, the first of the season. Prices are expected to remain at last season's figure, $2. H. K. Wick & Co., who take a leading part in the handling of Pittsburg coal here, and who are always looked on as a possible addition to the water fueling business, again announce that they shall stick to ore-handling and the general soft coal trade. They hold that a fuel dock must have a hard coal business behind it to amount to much. W. C. Blodgett, manager of the coal business of the New York, Ontario & Western railroad at Buffalo, has bought the schooner Metacomet and J. H. Rutter as they lie frozen in at Valleyfield on the St. Lawrence. They are part of the fleet that started for the coast last fall. The new owner will take them to New York and put them into the company's coal trade on the coast. President Truesdale of the Lackawanna has ordered the company's lake line dropped and will give the package-freight business to the Anchor line. This leaves some large steamers out in the cold. There are a number of large steamers owned by Lackawanna officials, which will without doubt be used in e company's coal trade as usual.

---

THE wind may be seen to blow, according to the New England Druggist, and this is the way to accomplish the feat: Take a polished, metallic surface of two feet or more, with a straight edge; a large hand saw will answer the purpose. Select a windy day, whether hot or cold, clear or cloudy, only let it not rain or the air be murky—in other words let the air be dry. Hold the metallic surface at right angles to the wind—that is, if the wind is north, hold your surface east and west—and incline it at an angle of forty-five degrees, so that the wind striking, glances and flows over the edge. Now sight carefully over the edge at some small but clearly defined object, and you will see the air flow over as water flows over a dam.

## DETROIT.

*Special Correspondence to The Marine Record.*

The D. & C. Line now have a daily service between this port and Cleveland.

From present indications the D. & C. steamers may not start on the Mackinac route before May 20.

The George E. Hartnell left here this week for Toledo where she will be docked for repairs. She was unable to get into a Detroit dock on account of the present rush of work.

An act has been passed by the Michigan legislature and signed by Governor Pingree, which changes the name of Sand Beach to Harbor Beach. The new name has already been adopted by the weekly paper published in the village.

Letters at the postoffice Tuesday, April 4: Emerson Furey, steamer Russia; James Heslip, barge Abram Smith; Frank Hawkins, schooner Homer; H. Darsen, care of Schrum Thomoskoron; A. Mills, schooner Ganges; Capt. Wm. McAlpine, steamer Livingstone.

The marine postoffice will be located in the suite of rooms in the Grummond building at the foot of First street, formerly occupied by the offices of the People's line, which have been moved up another story. The office is being renovated and will be ready for the transaction of business about April 15.

Lieut. Col. Milton B. Adams, Corps of Engineers, U. S. A., who for six years has been in charge of the light-house engineer department here, has received notice from the government that he will be removed to a similar position at Nashville, Tenn. Major Thos. Handbury, Corps of Engineers, U. S. A., will succeed to the Detroit post.

Judge Swan decided that the schooner Helvetia must pay the damages, which are about $6,000, in the Helvetia-Yakima case. The Helvetia collided with the Yakima while the latter vessel was aground. The costs of the case will be adjusted by the attorneys, who are John C. Shaw, for the libelants, and Harvey D. Goulder for the respondents.

The water in the Detroit river is nearly two feet below its normal level. This is a most unusual condition, and it is causing a great deal of trouble at the dry docks. The lowering of the the water is due to the big ice crush at points in the St. Clair river and at Port Huron, where a bridge of ice has for the present formed across the mouth of the river.

A report received this week states that the Straits of Mackinac are still solid with ice, and that under the most favorable conditions it is not likely that a passage can be forced before April 20 at the earliest; however, a few days of fine weather makes a great change at this season, and owners will no doubt be well advised if not taking chances too early.

Insurance rates at Duluth, as given in the tariff sheet to Lake Erie and Georgian Bay ports, are: April—First-class, 45 cents, second, 60 cents; third, $1.20. May 1 to August 31—First-class, 30 cents; second, 40 cents; third, 80 cents. September 1 to Nov. 30—First-class, 40 cents; second, 65 cents. Third-class—September, $1; October, $1.50; November, $1.75.

It is refreshing to read how nicely some daily papers touch upon marine items. In an article regarding a summer cruise for the Saginaw and Detroit Naval Reserve Corps, a Saginaw paper tells us that "short dog watches will be given so that all will get a full quota of sleep." The writer of the story may possibly understand what he meant to say, but gosh darned if I do.

The well and favorably known Frontier Iron Works will be sold at public auction to the highest bidder on April 18th, by the receiver, George A. True. This plant has turned out some of the best work in Detroit and was up to within two or three years ago a leading marine industry. It is a pity to see such a plant go to an auctioneer's or receiver's hammer where so much excellent hammering has been done.

Thomas Adams has been asked by Cleveland parties to make a price on his last remaining vessel, the Tom Adams, which is lying at Milwaukee. The sale of the Rutter marked the final dissolution in the partnership of Mr. Adams and Jesse H. Farwell. When they separated some time ago, Mr. Adams retained the Tom Adams and Mr. Farwell the steamer Farwell, the Rutter being held by them jointly until her sale.

The Detroit, Windsor & Soo Navigation Co. has decided to place the side-wheeler Majestic or City of Collingwood on the line from Windsor to Georgian Bay ports and the Soo. These boats were trading between Owen Sound and the Soo. The company had only one boat, the Carmona, running on its Windsor-Soo line last season, and it was then seen that the passenger traffic was too heavy for the one ship. The two boots will make weekly trips, one leaving Windsor on Monday and the other on Friday. The first trip will be made about June 15.

During the winter the Detroit Dry Dock Co. has been one of the busiest firms doing business on the chain of lakes. The rebuilding and repairing work, now drawing near to a finish, would probably show an outlay of a quarter of a million dollars and the gross expenditure by owners on a fleet of over 100 vessels is computed to aggregate fully a half million dollars. Of course a considerable portion of this gross amount has been expended on fitting out, labor, painting and new equipment, etc., of the several lines of passenger steamers owned here and it is well known that Detroit has more of this class of tonnage than any other port on the lakes and they are kept out in excellent style, too; however, the Detroit Dry Dock Co. has a reputation for doing thorough and high-classed work, and this applies to the engine works as well as the boiler shop department, hence the reason for a large fleet wintering at this port to rebuild and make necessary repairs.

The Detroit Ship Building Company, with a capital of $1,450,000, filed articles of association with the Secretary of State at Lansing on Tuesday. Senator McMillan and Hugh McMillan, his brother, with members of their family, hold nearly all the stock. This is understood as being a measure to facilitate the combination of shipyard interests and similar to the incorporation recently in West Virginia, of the West Superior Ship Building Co. It is considered more than probable that another yard will be taken into the consolidation, and steps are now being taken in this direction.

There is a strike on among the Ishpeming iron ore workers and serious trouble is anticipated. A notice has been issued by officials of the Cleveland Cliffs and Lake Superior companies to the effect that non-union men will be employed and protected caused great excitement among the workmen. The companies threaten to prosecute all who tresspass upon their property and warn those who have been hostile in the last few days to keep away from the mines. All who joined the union under compulsion will be given work and protected by the militia if necessary. The issuance of the notice possibly means a prolonged fight between the companies and the union.

On April 4 the first of a dozen suits filed by W. C. Richardson, Cleveland, and others, against the insurance companies for unsettled claims for so-called loss of the steamer J. H. Outhwaite and consort H. A. Barr, will be taken up in the United States District Court at Utica, N. Y. This steamer and her consort went ashore on Middle Island, Thunder Bay, in a terrific gale and snow storm a year ago, and the steamer was badly damaged. Both were abandoned to the insurance companies, who had them repaired. The owners claimed they were constructive total losses and wanted their money on that basis, but the companies claimed otherwise. Pending the settlement of the dispute, they have lain idle ever since at this port.

The steamer Frank E. Kirby, the "flyer of the lakes," is being fitted out for the coming season, and will be ready to make her first trip about the middle of next month. The handsome steamer has been completely overhauled during the past winter, her owners, Messrs. Ashley & Dustin, having expended something over $4,000 in putting the vessel in good shape. Among some of the improvements made are a new steam stearing gear, a new wale strake from stem to stern and a new guard deck. Other improvements have also been made and when the Kirby comes out next month she will look as bright and as clean as a new dollar fresh from the mint. Captain Arthur J. Fox will again command, while Ed Perry will have charge of the machinery department.

In the United States District Court the last admiralty case to be tried this season came to a termination. It was the case in which the Grand Trunk Railway Co. libeled the steam ferry-boat Excelsior for colliding with the car-ferry Lansdowne in the summer of 1898. The accident occurred in the Detroit river at the foot of Woodward avenue during a dense fog. The libelants submitted the testimony of James May, John Jackson, George Wright, John Wallace, Joseph Pratt, Joseph F. Taylor, John C. Carey and Charles Bird. The court ruled that there was no necessity for the respondents to produce evidence; that the libelants had failed to find the Excelsior negligent, and that on the other hand the Lansdowne was admittedly navigating without a lookout; the court believing this a practice opposed to the best public policy, dismissed the case with costs. The libelants are given forty days in which to appeal.

## ESCANABA.

*Special Correspondence to The Marine Record.*

Eleven-foot light ship is nearly ready, as is also the wrecker Monarch.

Have not been able to find out who the parties are that have been at Port Huron in search of a tug to be used as a wrecker at this port.

The Northwestern Railroad have a large crew at work making needed repairs to the ore docks, especially No. 1, which needed new decks and pocket bottoms.

If the present weather continues for about a week there will probably be some chance of it breaking up about the 15th to the 20th, but at present we have nearly 30 to 32 inches of good blue ice.

## PIGEON MESSENGERS.

The passenger steamers of the A. Booth line will this season adopt the plan of the D. & C. and of several Atlantic passenger lines of carrying homing pigeons on all of their boats. Cotes will be established at all the Lake Superior terminal points, Duluth, Ashland, Bayfield, Port Arthur, and Sault Ste. Marie. It is proposed by the Booth management to do away with the anxiety which has frequently been needlessly aroused in such instances as the reported loss of the steamer Dixon last season. With the homing pigeons communication with the vessels of the line will be possible at all times.

## SIGNALS BETWEEN PILOT HOUSE AND ENGINE ROOM.

A misunderstanding of general and in fact of vital importance to those practically engaged in the sailing industry of the lakes took place towards the close of navigation last season between the master and engineer of a steamer owned by the Minnesota Steamship Co., Cleveland. It is understood that the owners sided with the master and eventually dispensed with the services of the engineer. The matter was brought before the Marine Engineers' Beneficial Association and it was thought advisable for a delegation consisting of about 25 engineers of the line to seek a direct interview with the manager so that a clear understanding might be brought about regarding the signals to be given between the pilot house and the engine room. Accordingly, the owners of the Minnesota Steamship Co., Messrs. Pickands, Mather & Co., received the committee and afterwards addressed a communication to Hon. James A. Dumont, Supervising Inspector General of Steamboats, to which, in due course, they received the following reply:

Messrs. Pickands, Mather & Co., Cleveland.—Gentlemen: I am in receipt of your favor of the 14th inst. relating to whistle signals between pilots and engineers on steamers on the Great Lakes, and referring to an alleged custom therein, "when the master desired the engine to be backed strong to repeat the backing signals of two whistles." Referring also to the statement of one of your engineers, that I "have stated that when the two whistle signal is repeated it can only be interpreted to mean reverse your engine and work her in the opposite direction, and that in the event of the master desiring the engine worked stronger, he must, irrespective of whether she is going ahead or backing, use the one long-whistle signal." I also note what you say in regard to the opinion of your employes, who seem to think that under such ruling as above quoted "there is liable to be more mistakes between the master and engineer than there would be under the custom which they have been following."

In reply, would say in regard to this last quoted statement, that the only case coming under my notice of an accident happening or damage being done, was in blowing two whistles to back strong when the engine at the time was already backing under a two-whistle signal; and it was this case that called out the remarks as stated to you by one of your engineers, which I have already quoted herein.

The question was brought before the board of supervising inspectors, verbally and formally, at the board's recent meeting, by the engineer who caused the accident referred to, and who had been censured and held at fault for an alleged misconstruction of the meaning of the whistle signals, his object apparently being to obtain the board's support of his action. The matter was freely but informally discussed by the board, when all the members but one agreed that the engineer was at fault, and that his duty was, when backing under two whistles and he received another two whistles, to "stop, reverse his engine, and go ahead."

The board of supervising inspectors subsequently visited upon invitation, the National Association of Marine Engineers, then in session in Washington, for mutual conference, when the same engineer, who was a delegate, brought the subject up there, and the matter was again discussed, with the result that his associates were almost, if not quite, unanimous against his construction of the rule.

This matter may be better understood by a consideration of the rules themselves, which read as follows: "There shall be used between the master or pilot and engineer the following code of signals, to be made by bell or whistle, namely:

| | |
|---|---|
| 1 whistle or bell | Go ahead. |
| 1 whistle or bell | Stop. |
| 2 whistles or bells | Back. |
| 3 whistles or bells | Check. |
| 1 long whistle or 4 bells | Strong. |
| 1 long whistle or 4 bells | All right. |

Two whistles or two bells, when the engine is working ahead, will always be a signal to stop and back strong.

From the above it will be clearly seen, I think, that when a steamer's engine is at rest the signal for backing is two whistles, and the same whistles given when the vessel's engine is going ahead means to "stop and back strong;" and then, if emphasis is desired to be given such a signal, the rule provides another absolute signal, namely, "one long whistle or four bells," which is the only signal authorized by the rules under the conditions given. The rule for going ahead, as will be seen, is one whistle or bell; the same signal is used for stopping, whether going ahead or going astern. Consequently the rules having provided, first, that "two whistles" means to back, and second, "one long whistle or four bells" to back strong, it follows that when a steamer is backing and the engineer receives two bells, it can only mean that one of the bells means stop backing and the other bell to go ahead. Had the engineer who brought this subject to my attention and that of the board of supervising inspectors followed the rule as here laid down, there would have been no collision, the vessel in which he was in charge of the engine having at the time a danger to confront both ahead and astern, and no leeway between that would permit an interval between the last two whistles blown by the master, a condition frequently happening to a vessel when entering or leaving a crowded harbor, or navigating in a crowded river, and I speak of this from long personal experience.

In respect to your statement, that it "often happens that the captain having to use a good many whistle signals in docking his ship may possibly forget the last signal that was given to his engineer, and they have guarded against this by only giving the two whistle signal one interpretation," I would suggest, in regard to the last clause of this statement, that instead of the captain giving the two-whistle signal one interpretation, he has, as heretofore explained, given it two interpretations, one of them in direct violation of the rules, when he reports a two-whistle signal for a strong movement of the engines when a lawful signal for such purpose, as given in the rule of the board of supervising inspectors, is one long whistle or four bells. I would further say that it is, in my opinion, a very dangerous practice, one which cannot be too strongly condemned, for masters, pilots or engineers to supplement the rules of the board of supervising inspectors with rules of their own which are directly contrary to those of the board, particularly if this is done, as is suggested, as a remedy for their forgetfulness of what the last signals given were.

In conclusion would say that I fully confirm the statement quoted in your letter as to my interpretation of the whistle signals, and I am glad that you have taken the subject up and will issue a circular letter in accordance therewith to your masters and engineers. Trusting you will pardon the lengthy details I have given herein explanatory of my reasons for the interpretation given the rule under consideration, I am,

J. A. DUMONT,
Supervising Inspector General.

Office of Steamboat Inspection Service, Washington, D. C.

This authoritative ruling, having been digested and duly commented upon, and, as we now understand, the discharged engineer reinstated, a committee of the Cleveland branch of the Shipmasters' Association was appointed to draft suitable resolutions asking that a change in the ruling be made. The committee has just submitted the following report at the last regular meeting of the lodge:

*To the Officers and Members of Shipmasters' Lodge No. 4:*

Your committee begs leave to report the following preamble and resolutions:

Whereas, The Supervising Inspector General of Steam Vessels has made a ruling in regard to the meaning of the two whistles used in communication from the pilot house to the engine room, namely, that when the engine is backing, the only construction that can be placed on two whistles is: One to stop and one to go ahead; and that two whistles does not mean to back at all times, as we have before understood; and

Whereas, In the opinion of this body the law intended the two whistles to mean back, and back at all times, irrespective of what other signals have been blown previous; and

Whereas, It has been the practice for years, and in the opinion of this body the only safe way of using this signal; and

Whereas, This mode of using the signal enables the master or pilot to have one signal upon which he may depend as having but one meaning and which could be repeated if necessary; and

Whereas, It occurs many times from noise and many other causes that we do not hear distinctly the signals blown, especially upon vessels of over 400 feet in length; and

Whereas, The vessels of modern build and construction do not show by vibration or by any other way whether their engines are working or not, or whether they are working ahead or astern, and from the great weight of these vessels it is very difficult to determine this point from their momentum; therefore be it

Resolved, That this lodge petition the supervising inspector general of steam vessels to modify his decision, so that the two whistles will always mean to back, and to back only.

Resolved, That a copy of these resolutions be sent to each of the lodges of this association with the request that they co-operate with this lodge in getting this ruling changed or modified.

Resolved, That a petition be drawn up and signed by the masters and owners and sent to the Supervising Inspector general at Washington, D. C., asking for this change in his ruling.

## NOTES.

UNDER the title of "National Bigness or Greatness—Which?" Bishop Henry C. Potter contributes a remarkably thoughtful article to the April number of the "North American Review." The Bishop lays emphasis upon the perils which attend the policy of annexing distant regions inhabited by alien and semi-barbarous people. "What we want all around the world," he suggests, "is a system of international government. What we want to create to-day is the highest court of appeal, that court of appeal to which nations could take their differences and their problems for final adjudications."

CRAMP has given some interesting details regarding the relative cost of shipbuilding with his firm and on the Clyde in connection with the proposal to increase shipping subsidies in the States. He pointed out that although steel material might cost the same in America as in Glasgow, labor was a still more important factor. Thus in a ship of 5,000 tons, into which 2,150 tons of steel were worked prior to launching, the metal cost £13,000, while the labor cost £34,000—together £47,000. Now on the Clyde this amount of material would be worked into the ship for £23,800, and thus the total for the Clyde ship would be £10,200 less.

GERMAN activity in chemical research appears to extend to all the subjects of human industry. Among the latest productions of the laboratory, promising a large future, is one by Herr Treumann, which seems to fulfill the demands for a perfect preserver of iron and steel from rust. This is in the form of a coating whose base is a Japanese lacquer, of milky appearance, obtained from the plant rhus vernicifera. Not only does it withstand the action of atmospheric changes, but also high temperatures, vapors, acid gases and salt water. and is even asserted to be inattackable by marine plants, barnacles, etc.

THE Bureau of Navigation, Treasury Department, has received information from the U. S. Consul at Martinique, that when charters of vessels from the United States make the freight payable in "American money, or the equivalent in Martinique currency," at five francs and twenty-five centimes to the dollar, it is invariably paid in the currency of the island, the master thus being obliged to buy a draft in order to forward his account to his owners and to pay therefor from 2 to 4 per cent., thus making his net receipts per dollar falling that much below five francs twenty-five centimes. It has been suggested that to obviate this difficulty charter parties should be made so as to show that the freight is payable in American gold, or its equivalent, at the current rate of exchange.

MR. JOHN BIRKINBINE, member A. S. M. E. and president of Franklin Institute, has formulated plans for taking 5 per cent. of the volume of water rushing down through the gorge at Niagara Falls and thus obtain 35,000 electrical horse-power from the unharnessed forces now going to waste at the rapids, where there is a speed of about twenty-two miles an hour. It is proposed to take the above volume of water through a canal, along the foot of the gorge and realize on the 45 foot head of water between the whirlpool and the bridge above. This, according to the estimates, can be done at a cost of about $2,000,000. The canal, when made, is to pass down the gorge between the tracks of the gorge railroad and the precipitous bank, while the power-house will be placed at the bend in the river, just opposite the whirlpool. The canal will have a length of 5,300 feet and width of 100 feet, taking water below the bridges and will receive the 10,500 cubic feet of water per second through openings pierced in solid masonry at the head of the canal. This scheme is estimated to cost less to develop than a plant of like power, installed so as to use the direct head of the falls.

## LITERARY NOTICES.

Among the special features of the April number of Cassier's Magazine of illustrated engineering are: Engineering in Africa and the Far East—on the outskirts of civilization, by J. M. Nisbet; electric-power in steel-making—the present status in the United States, by Eugene B. Clark; industrial imperialism—the growth of gigantic industrial corporations, by Thomas Hitchcock; horseless carriages four hundred years ago—a discussion of seven old German designs, by A. R. Sennet M. Inst. C. E.; the early use of rolls in the manufacture of metals—some rolling mills of the fifteenth and sixteenth centuries, with eight illustrations, by W. F. Durfee, C. E.; modern pumping machinery for mine service—a comparison of types, with seven illustrations, by Otto H. Mueller.

## INCOMPETENT STATESMANSHIP.

(Communicated.)

Since the adjournment of Congress some writers have taken exceptions because the Lower House of Congress did not pass the bill appropriating $115,000,000 for the construction of the Nicaragua canal. Prof. Haupt, member of the Nicaragua Canal Commission, is one of these. From a compend of his criticism, as published in the Literary Digest, it might be inferred that Uncle Sam could scarcely navigate if the big ditch was not constructed. Mr. Haupt ignores the Panama canal and the fact that Uncle Sam has guaranteed the neutrality of that waterway and as that canal is nearly half completed and is in rapid process of construction and will be superior in many respects to the new route, not only in less elevation, but straighter, thus allowing the big ships to pass with less delay and expense, Mr. H's criticisms have no basis. Even in the Manchester, England canal, which is less crooked than the Nicaragua canal route, two tugs are required to conduct ships through that waterway. Mr. H. says, "That the question of the cost of the new canal sinks into insignificance." That statement is probably on the assumption that Uncle Sam pays the cost. $350,000,000, which the canal will doubtless cost, is not of much account if some one else pays it, may be inferred from Mr. H's. statement. The business that a canal across the isthmus will do is estimated at a tonnage of from 5,000,000 to 6,000,000, and if a new canal is built the business would be divided and the result, as the Scientific American says, would be bankruptcy to both canals. Prof. H. incidentally refers to the vast business of the Great Lakes but ignores the fact that that vast tonnage, which is more than ten times that claimed for the isthmus canals, has no outlet to the seaboard. During the late war with Spain Uncle Sam was obliged to depend on the Canadian canals to pass vessels from the lakes to the seaboard. The cost of the Nicaragua canal would deepen the Miami and Erie canal and open a deep waterway to the Gulf of Mexico and also construct a ship canal from the outlet of Lake Erie to the seaboard. The deep waterway from the head of Lake Erie would not only be the most direct and cheapest way to the seaboard, but would give an outlet for the richest and most productive section on the globe. Already the south shore of Lake Erie has 200 miles of the most valuable shore line in the world, and when the deep waterway is constructed there will be an extension of more than 200 miles more of the fairest and most productive section in the world—not only blessed with an excellent climate, a fertile soil, but rich in oil and gas. The statesmanship which appropriates hundreds of millions of dollars for an unnecessary foreign enterprise and ignores necessary enterprises at home, which would not only provide employment for American labor, but be of much greater benefit to the nation, in peace or war, is of a most incompetent and reckless character.

J. H. S.

## CONSTRUCTION OF NEW TONNAGE.

The merchant vessels, including barges, built in the United States and officially numbered by the Bureau of Navigation during the first three-quarters of the fiscal year ended March 31, numbered 632, of 169,794 gross tons, compared with 541 of 58,159 gross tons for the corresponding period in 1898, and 460 of 125,935 tons for the corresponding period of 1897. Half of the construction for the March quarter was in steel. The total construction for the fiscal year will exceed 250,000 tons, and will be the largest annual output since 1891. By far the greater part of this construction is for the coasting trade. Five steel steamships for trade with the West Indies have, however, been built under the postal subsidy act of 1891. The construction of other sea-going steamships for the Hawaiian and Porto Rican trade has been begun in view of anticipated legislation.

## APPOINTMENTS OF MASTERS AND ENGINEERS.

MESSRS. BIGELOW BROS., Chicago, Ill.—Steamer Madagascar, master, John Jenks; engineer, Chas. Neereton. Barge S. M. Stephenson, master, John Cowan; Fanny Neil, master, C. K. Moore.

THE LEHIGH VALLEY TRANSP. CO., Buffalo, N. Y.—Steamer Saranac, master, P. McFarlane; engineer, C. R. Plodeck. Seneca, master, D. Driscoll; engineer, D. Fox. E. P. Wilbur, master, C. E. Fuller; engineer, H. Millan. Tuscarora, master, Wm. Williams; engineer, H. Wilson. Tacoma, master, S. Lyons; engineer, S. Moore. Oceanica, master, J. Todd; engineer, T. Bluett. Clyde, master, J. H. Whiteside; engineer, J. Leahy. Fred Mercur, master, W. Delaney; engineer, Wm. Teehan. H. E. Packer, master, J. Hulligan; engineer, R. Loveless. Capt. J. Burns, of Tacoma, appointed harbor master of Buffalo, Capt. J. M. Todd, of Saranac, appointed Asst. Inspector of Hulls 9th. district; L. H. Van Allen, superintendent; F. G. Rogers, chief engineer.

## NOTICE TO MARINERS.

UNITED STATES OF AMERICA — NORTHERN LAKES AND RIVERS—NEW YORK.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., March 30, 1899.

NIAGARA RIVER RANGE REAR LIGHT STATION.—Notice is hereby given that, on the opening of navigation, 1899, a lens lantern light will be established in the structure recently erected on the site of the structure from which the rear light of this range was formerly shown.

The focal plane of the light will be 103 feet above mean lake level.

The new structure is an octogonal wooden tower, pyramidal above the first story, surmounted by a lantern with a high dome. The lower story of the tower is dark green, the remainder of the tower, including the channel face of the lantern roof, is white; the other faces of the lantern roof are black.

No change will be made in the characteristic of the light, but it will appear more brilliant, and the tower will be more conspicuous as a day mark.

CLEVELAND WEST BREAKWATER (E. END) LIGHT STATION.—Notice is hereby given that the sounding of the steam whistle at this station, inside the easterly end of the west breakwater, westerly side of the entrance to Cleveland harbor, will be discontinued until further notice.

During thick or foggy weather the bell will be struck by machinery a single blow every 10 seconds.

Due notice of the re-establishment of the whistle will be given.

CARLTON ISLAND LIGHT STATION.—Notice is hereby given that, on the opening of navigation 1899, a fixed white lens lantern light will be established on the white mas. recently erected on the northwesterly point of Carlton Island, easterly side of the main channel of the St. Lawrence river, near its head.

The focal plane of the light will be 95 feet above mean lake level. The light will not be visible to vessels coming up the river (from the eastward) between the bearings (approximate) WSW. ⅝ W. and WNW. ⅝ W. (true).

The approximate geographical position of the mast, as taken from Chart No. 60 (Lake Ontario Coast Chart No. 1) of the United States Survey of the Northern and Northwestern Lakes, is:

Latitude, north, 44° 10′ (54″);
Longitude, west, 76° 18′ (47″).

A white dwelling and a white boat house stand to the southward and southwestward, respectively, of the mast.

By Order of the Light-House Board:

FRANCIS J. HIGGINSON,
Rear Admiral, U. S. Navy, Chairman

## ARE TOW BARGES SAILING VESSELS?

James A. Dumont, Supervising Inspector-General of the Steamboat Inspection Service is of the opinion that tow barges of the lakes will not require inspection under the new law regarding sail vessels. He is quoted as saying in a letter:

"I have to inform you, tentatively, however, that it is my opinion that regular tow barges on the lakes, with sails to be used as auxiliary power only, would not be classed as sail vessels under the law 'concerning sail vessels of over 700 tons.' The estimates of this office as to the number of sail vessels of 700 tons and upward that will require inspection for the Atlantic coast is 452, and the lakes 109."

## GRAIN ELEVATOR CHARGES.

Erie canal men have renewed their effort to regulate transportation and storage charges on grain by the same bills that were introduced in the Legislature last session. Senator Foley has charge of the measures.

One bill provides that charges shall not exceed 50 cents per 1,000 bushels for elevating grain, ½ cent per bushel for hoisting apparatus, and ⅛ cent per bushel for storage for the first ten days, with 1-10 cent additional for each succeeding ten days or part thereof. The companion bill appropriates $500,000 for the purchase of grain elevators—three at Buffalo and three at New York—to be under the management of the Superintendent of Public Works.

## FLOTSAM, JETSAM AND LAGAN.

The German government pays the North German Lloyd alone more than $1,000,000 a year for carrying the mails.

There are some curious superstitions concerning waves. The Arab sailors believe that the high seas off the coast of Abyssinia are enchanted, and whenever they find themselves among them they recite verses which they suppose have a tendency to subdue them.

Of the 25 principal countries of the world, 19 have flags with red in them, the list including the United States, England, France, Germany, Austria, Italy, Spain, Denmark, Belgium, Sweden, Switzerland, Turkey, Mexico, Chile, Portugal, Venezula and Cuba.

A cat has just died at San Francisco who had traveled very nearly a million miles. He belonged to the chief engineer of the Royal mail steamer Aladema, and for thirteen years was his companion on board ship in all his voyages between Sydney and San Francisco. With the passengers this remarkable cat was a great favorite, and on completing 700,000 miles he was presented with a silver collar.

The Wm. Cramp Ship & Engine Building Co., Philadelphia, has a force of 5,000 men at work, with prospects that they will be kept busy through the year. The company has now in hand work on the two Russian war vessels, the two American war vessels, the Mexico, a steamer for the Plant line, and the four recently contracted for by the Oceanic Steamship Co., which are to be completed in a year. Two stocks are vacant, and preparations are going forward for the laying of two more keels.

Two bluejackets were once overheard arguing as to who had the least work to do on board a man-of-war. "It's the parson," said one. "'Ow d'ye make that out?" queried the other. "'Cos 'e's got no work to do, and all day to do it in." "You ain't quite got it, Bill," retorted his friend, while an inspired grin illumined his features. "It ain't the parson, it's the Cap'n o' Marines." "'Ow's that?" "Well, as you say, the parson's got no work to do, and all day to do it in; but the Cap'n o' Marines 'as nothin' to do and all day to do it in, and 'as a Lewtenit o' Marines to 'elp 'im to do it!"—Ex.

Annual reports regarding affairs of the Richelieu & Ontario Navigation Co., of Montreal, show that the gross receipts in 1898 were $728,943.97, as against $668,026.09 in 1897; operating expenses $590,936.53, as against $552,980,94 in 1897; fixed charges $25,979.89, compared with $26,945.09 in 1897, and a net profit of $112,027.55 as against $108,130.06 during the year previous. After the payment of the semi-annual dividend of 3 per cent., amounting to $104,600, the balance carried to surplus amounted to $7,627.55. The increase in operating expenses is mainly due to improvements made on several of the company's steamers.

It was in Malta harbor on a sultry day that a four-foot-eight midshipman came to join his first sea-going ship. Having duly reported himself to the captain—an officer of some six feet two inches—the latter, literally looking down upon the boy, said: "Well, youngster, so you've come to join—eh?" "Yes, if you please, sir," meekly responded the midshipman. "What is it—same old yarn, sent the fool of the family to sea—eh?" "No, sir," ingenuously replied the youngster; "oh, no, things have altered since your time, sir." "Go away," roared the captain, and the middy flew below as fast as his little legs could carry him.—Ex.

A correspondent writes the RECORD from Oswego, N. Y., stating that the recent advance of $5 per month on last year's card rates of lake wages is after all a very small pittance considering the promising outlook. Subscriber signs his name and evidently writes a fair letter from a wheelman's standpoint, with the object of having the same published. We do not think it would be for the best interests of subscriber to print his individual opinion in this matter, though we can say that the most prominent lake vessel owners are liberal and fair minded men who will at all times consider the requests of a majority of their employes.

Five fishermen of Sandusky, H. C. Payson and his three sons, James, John and Charles, and Louis Roberts, went out in a small sailboat to lift their nets and were caught in a storm on Tuesday, which carried away the mast of the boat and drove the ice down upon them so that for nearly twenty hours they were drifting helplesely about among crushing and grinding ice floes, and in momentary danger of going to the bottom. They had a small rowboat in tow. Two of the men started for Marblehead life saving station in it. They were finally forced ashore on Cedar Point after a terrible experience, and were almost dead from cold and exhaustion. Subsequently the tug Silver Spray sighted the three men in the sailboat, and after hard work managed to reach them. The men were in a pitiable condition, being almost frozen and completely exhansted.

Some very interesting points were brought out a day or two ago by Toledo vessel men, at one of the tug offices, regarding shortage in grain cargoes of vessel. "Some years ago," said one of them, "the schooner Brooklyn, Capt. David Kelly, was transferring grain from Wabash elevator No. 5 to the Union elevator. A cargo of wheat was placed in her, and she was shifted across the river to the Union elevator. She was found to be 40 bushels short." "Yes," said another, "and you will remember the time when the schooner Madeline Downing took on a cargo of grain at a Detroit elevator. When the cargo was in her she began to leak some, and her captain determined to have the cargo discharged into the same elevator from which it was taken. The captain was surprised to find, when the grain was put back into the elevator, that there was a shortage of 60 bushels, and the elevator people wanted him to pay for the grain."

MARINE RECORD

ESTABLISHED 1878.

Published Every Thursday by

THE MARINE RECORD PUBLISHING CO.,

Incorporated.

C. E. RUSKIN, - - - - Manager.
CAPT. JOHN SWAINSON, - - - Editor.
THOS. WILLIAMS, Chicago, - - Associate.

CLEVELAND, Western Reserve Building. CHICAGO. Royal Insurance Building.

SUBSCRIPTION.

One Copy, one year, postage paid, - - $2.00
One Copy, one year, to foreign countries, - - $3.00
Invariably in advance.

ADVERTISING

Rates given on application.

All communications should be addressed to the Cleveland office.

THE MARINE RECORD PUBLISHING CO.,

Western Reserve Building, Cleveland, O.

Entered at Cleveland Postoffice as second-class mail matter.

CLEVELAND, O., APRIL 6, 1899.

RELATIVE to dimensions, the lake shipyards are turning out new tonnage far superior, or rather in excess of that built at coast yards. Steel steamers up to 475 feet in length and consorts or tow barges of nearly as great length, less the overhang, is now the order of the day and contracts are being regularly placed for such tonnage at the several lake ports. According to our advices, two steel tow barges, 436 feet in length, beam and depth in proportion, have been contracted for this week to be built at South Chicago.

JAMES GORDON BENNETT, proprietor of the Herald, New York, has contracted with Wm. Denny & Bros., of Dumbarton, Scotland, for a 3,000 ton twin-screw steam yacht, designed by Geo. L. Watson, of Glasgow. It is greatly to be deplored that Mr. Bennett could not see his way clear to place the order for this valuable fancy tonnage with American shipbuilders. The foundation, at least, of Mr. Bennett's millions was laid and made on this side of the Atlantic, so that it would have been nothing more than a graceful act for him to have further assisted the workmen of this country out of his superabundance of wealth.

THE Weather Bureau, Department of Agriculture, has published an ice report each week for the past three months. Now, that it would be of the greatest benefit to the lakes they have discontinued the issuance of the report. It certainly seems that the Department of Agriculture should in some manner draw a dividing line between the interests of farmers and mariners. We may suggest that the Hydrographic Department of the Navy would be more in consonance with the work of furnishing lake information than the apparently hybrid connections now attempted by the Department of Agriculture, of which the Weather Bureau is a branch department, and it seems to have tackled lake work which it can not handle intelligently or in any way satisfactorily to marine interests.

WELL devised sea anchors ought to be placed on board of each of the large steel tow barges to be used in the event of the towing steamer being compelled to let them go during the prevalence of a gale of wind. It is all right enough to define a sailing vessel as a vessel under sail and not under steam, but these large steel floating warehouses, although they are ships in disguise as regards carrying capacity, can not by any stretch of the imagination or warping of technical definitions be classed as sailing vessels. They are not built for nor intended to move from place to place under sail, and, while they are able to show some little canvas they can no more be classed as sail vessels than a whaleback or an Erie canal barge. These immense steel craft are consorts or tow barges and are always under the convoy of steam vessels.

## BELLEVILLE BOILERS.

The Northern Line steamers trading from Buffalo to Duluth are fitted with Belleville boilers, and it is common report that they very nearly approach failures. Other types of water-tube boilers are not much better, although the tubular boiler is the coming one, and there are some in the market now that are a success.

The British have been adopting this French patent to their sorrow, but we have not heard much about the Babcock & Wilcox type, which we understand is much of the same type, and it is probable that on account of the lack of use of the last mentioned water-tube boilers, they are not so much condemned; however, all that is known of them on the lakes, is to their derogation, and the men who handle and fire them, call the multiplicity of tubes, termed boilers, murderous.

Belleville, or Babcock & Wilcox, to the contrary, notwithstanding, it is safer to carry a well tested tubular boiler, or else furnish the good old cylindrical form, regarding the merits of which there is no room for argument.

THE wages of surfmen engaged lately in the United States Life Saving Service on the lakes was increased by act of Congress to $65 per month during eight and a half months service each year. This sum averages about $46 per month counting yearly service. It is seldom that the men can find any work for the winter months, during the close of navigation, so that if they wish to continue as life-savers their eight and a half months pay must carry them over their idle time, they of course board and clothe themselves, etc., out of the above sum, the Life-Saving Department don't issue rations. It is now proposed to cut surfmen's wages down five dollars per month after June 30, so that they will only receive $60 each month for the balance of their season's service. The Spanish-American war was perhaps a very elaborate, extensive and expensive affair, so no doubt, are the commissions now engaged in finding out how part of it was carried on, or rather neglected, or which way whatever it is, or was. We must say, however, that it looks piteously impecunious and positively impolitic for our paternal omnipotent to pare away a few nickels off the life savers' wages. Nuff said.

THE pilot chart of the North Atlantic Ocean for March, is a most interesting and valuable delineation of a much traveled waterway. Besides containing the usual data regarding currents, prevailing winds, storm tracks, wrecks, derelicts, etc., some peculiarly useful data is furnished relative to the location of ice-bergs and the fog limits in the vicinity of the banks. We note that the fog extended during March from longitude 70° to 40° W., or a distance of 1,800 miles, over two-thirds of which distance the trans-Atlantic passenger service is carried on. Commander Craig, U. S. N., Hydrographer, is to be complimented on issuing so complete and invaluable a chart for March. In this connection we might suggest that the heading of the table of time signals be slightly changed so as to read more exact and pertinent. The staff on the tower of the Western Union Telegraph Office, New York, is not a part of the Atlantic Ocean any more than is the New Orleans Cotton Exchange or Bidston Hill, Cheshire.

THE Baltimore and Ohio R. R. handled at Sandusky last season more coal than any other single dock along Lake Erie, but this season it is the intention to take care of a still larger amount than the 500,000 tons which went over the docks from the opening of navigation to the close of December last. Just what kind of machinery the company will erect is not yet known, that matter to be decided upon later. With its already quick-loading machinery, erected last winter, and with the additional apparatus to be added, the company will be well equipped to handle large quantities of coal from the West Virginia and Ohio fields. The acquiring of greater dock space and the improvements to be made by the Baltimore and Ohio means much to the commercial and trade interests of Sandusky.

THE thanks of the RECORD are due the Cleveland branch Hydographic Office, U. S. N., for an early copy of "The list of lights and fog signals of the United States on the northern lakes and rivers and also of the lights and fog signals of the Dominion of Canada on those waters" corrected to the opening of navigation 1899. It is quite in order for us to state that a copy of this list will be sent free of charge to any shipmaster on application to the office of the Light-House Board, Washington, D. C., or to the offices of the Light-House Inspectors at Chicago, Buffalo or Detroit.

## LIQUID FUEL.*

The subject of liquid fuel, although now coming into great prominence, is by no means a novel one. Russian petroleum has been in use for this purpose, both in Russia and the United States, for very many years. Its advantages, compared with coal, are well known and appreciated, and the sole obstacle to its universal adoption has been that the supply has been insufficient hitherto to warrant arrangements being made for its use. No experts have yet been able to define how petroleum is, or has been, produced, whether it is recuperated by nature as it is drawn off, or whether the yield decreases, and ceases entirely after a time. Again, oil would appear to be found in layers, much below one another, and the force and the pressure of gas increases with the depth attained by boring, and it is no uncommon thing in putting down an oil well, to go through strata which might have yielded a fair flow of oil, to case this off, and at some hundreds of feet deeper, hit upon a flow which has spouted 50 to 60 feet above the derricks, and in spite of all attempts to cap the fountain, a vast escape of oil has taken place. The mere production of oil is almost its least value and, perhaps, least interesting state. Markets have been found, and in this case almost had to be created in the East, because it is a well-known axiom in business that "Nothing sells itself." Prejudices have to be overcome, the means of using treasure has to be shown and proved, and in such an article as liquid fuel not only has transport got to be provided, but special arrangements for storage have to be made, and it was also obvious that, if practical success was to be obtained, liquid fuel would have to be sold at a price which would enable it to compete with coal. *Ab initio* this should be easy, when the cost of labor in mining for coal is taken into account, together with its transport from the fields where it is found, to a place of shipment, and also the great cost incurred in placing it on board and discharging it, and the space occupied by it in the hold of a ship (this being about 45 feet to a ton of 20 cwt.), and, little as this is known and realized, the danger of transport arising from the highly inflammable gases contained in Eastern coals, renders fires in holds and bunkers far more numerous than the public are at all aware of. It is, of course, impossible to transport oil in bulk in steamers built for ordinary merchandise.

In the tank steamers coffer-dams are placed fore and aft for isolating the oil against danger from the boilers or furnaces, which in these ships are placed quite in the after part of the vessel—a practice which it is a great pity is not adopted in more steamers, because the risk of accident from the breakage of the shaft is almost non-existent in this form of structure, the lead being a small one, and the shaft being under the constant observation of the engineers, since there is no tunnel at all. To show the progress of the business, I may state that the first steamer employed in the business of transporting oil in bulk through the Suez canal was a vessel of 4,000 tons burden of oil, whilst the largest of those employed now carry 6,500 tons, and we have three steamers in course of construction to carry 9,000 tons of oil each, or 3,000,000 gallons. The facilities for landing and handling oil necessarily differ very much at various ports. At Nagasaki, Japan, the steamer lies next to the wharf, whilst at Kobe, Japan, a pier had to be constructed, it being impossible for a steamer to get alongside. At the port of Madras a breakwater of almost a mile in length had to be constructed before water sufficiently deep to allow a steamer of the size employed in this trade to get near, could be found, and even then, a contrivance had to be constructed to connect the discharging pipe of the steamer with the breakwater. In spite, however, of these drawbacks, it is found that a steamer can easily discharge into the tanks, placed at one mile distant from the ships, at the rate of fully 200 tons an hour. As an example of the progress of liberal ideas, I may mention the installation of Bombay, where permission to land the oil was only given some two years ago, and after experience had shown the immunity from danger attending the transport of oil in bulk. These tanks are placed almost in the middle of the shipping, railway sidings have been taken right up to them, whence oil is pumped into the tank wagons for conveyance all over India.

*Paper read by Sir Marcus Samuel, Society of Arts, London.

[TO BE CONTINUED.]

IT is proposed to use electro magnets for recovering a large load of steel rails which was sunk in the Ohio River. A crane boat will be equipped with magnets capable of lifting 4,000 pounds each. The work will be done by the Langdon Electric Company, of Pittsburg.

## ENDORSED BY BUFFALO SHIPMASTERS.

The Buffalo Shipmasters' Association have adopted the following resolutions:

Whereas, We find there is a movement on foot to enlist the interests of Congress in establishing a hospital building for the use of the marine hospital service at the port of Buffalo, and realizing the urgent necessity for such action on account of the great growth of maritime business at this port and the consequent increase in the number of cases requiring the care and attention of the hospital service to such an extent that it has outgrown ward space that can be obtained from the hospitals on the contract plan; and

Whereas, There are at present three marine hospitals on the Great Lakes, located at Chicago, Cleveland and Detroit, we find the number of cases treated at Buffalo is largely in excess of treatment furnished either at Cleveland or Detroit, and is only exceeded at Chicago, we feel fully satisfied in asking Congress to establish a building at Buffalo for the use of the marine hospital service, and thereby solve the problem how sick and disabled seamen of the Great Lakes shall be cared for in the future, be it therefore

Resolved, That Buffalo Lodge No. 1 Shipmasters' Association are in hearty accord with the movement to establish a marine hospital at Buffalo, and will further the movement by all honorable means in their power.

## SUIT FOR INSURANCE.

In the spring of 1894 the steamer W. H. Barnum foundered near the Straits of Mackinaw. She was loaded with corn from Chicago to Port Huron, and it was her first trip out. During a thick fog the vessel ran upon a reef and foundered.

Before the boat left Chicago, C. A. Chamberlain, manager for her owners, John C. Gauntlett, C. A. Chamberlain, W. H. Baker, B. H. White and the estate of Ben Birdsall, wired Chas. A. McDonald and and J. J. Rarden, Chicago marine insurance agents, for $12,000 insurance.

After the loss, the owners were unable to collect the insurance, and unable to discover in what companies the insurance was distributed.

Gauntlett & Co. started a suit against the Sea Insurance Co. for $3,500, and against the Reliance Marine Insurance Co. and the Marine Insurance Co., Charles A. McDonald and J. J. Rarden, agents, for other amounts aggregating $12,000. The trial is now in progress before Judge Hosmer in the Wayne Circuit Court.

The answer of the defendants charges that instead of being worth upwards of $30,000, as claimed, the Barnum was worth less than $10,000; that insurance above her value was asked; that her loss was not because of perils of the sea, but that she was manned by an incompetent crew. The defendants are all English companies, represented by Chicago agents.

## THE ST. LAWRENCE CANALS.

There are many indications that the approaching completion of the deepening of the canals to 14 feet is exciting great interest among our neighbors across the border. The Anglo-American, a monthly magazine published in New York, says in its current issue:

"Canada will soon become one of the principal outlets for northwestern wheat, and possibly for other products, such as dressed meats, wool, etc. A very large percentage of the carrying trade of Duluth, Milwaukee and Chicago is certain to go through to Montreal. It is not unlikely that by means of this cheapening of freightage it may become possible to find foreign markets for the Mesaba ores. It is the judgment of many competent traffic managers that with the completion of the present canal improvements, Canada is certain to cut heavily into the export trade of the United States, and particularly that of the port of New York. Apparently that must be the result. The importance to the northwest of the enlargement of the canals is very great and is thoroughly appreciated. Every grower of wheat will be benefitted to an appreciable extent, and it is likely that that part of the United States will gain more than Atlantic ports and eastern railways will lose by the diverting of traffic through Canadian canals.

## THE DAVIDSON SHIPYARD.

About 300 men are employed at the Davidson yard, West Bay City, and both mills are being run to their full capacity. The work of planking and laying the decks of the two new schooners which are being built is nearly completed. It is hardly possible that the boats will be ready for launching before the end of May. The progress of the work has been delayed by cold and stormy weather and the supply of timber has been somewhat short.

"We are going to build a large tug at the yard, but just how soon work on her will commence I can not say," said Supt. Arnold. "Capt. Davidson is expected home Tuesday, and we will know for certain then."

## REVENUE CUTTER SERVICE.

The marine revenue service of the lakes will go into commission between April 15 and 30. Orders have been issued that the old regulations will govern. No change in the stations of the boats have been made. The Fessenden will have headquarters at Detroit, the Morrell at Milwaukee and two steam launches at the "Soo."

## A RATHER SINGULAR RULING.

The United States Supreme Court decided last Monday the somewhat unexploited question of the liability of sailing vessels for excessive speed in case of collision in foggy weather. The case involved the collision of the American steamship Chattahoochee and the Canadian schooner Golden Rule off Nantucket Shoals in 1894, where the schooner was sunk. Both vessels were proceeding at their best speed in a fog when the accident occurred. The court below held that as the Golden Rule, as well as the Chattahoochee, had failed to slow down it was equally liable for the disaster and therefore held the owners of the steamer responsible for one-half the damage done. Justice Brown rendered the opinion of the Supreme Court, affirming this decision, remarking that "it is not perceived why the considerations which demand a slackening of speed on the part of steamers are not equally persuasive in the cases of sailing vessels." The Chief Justice and Justice Peckham dissented.

## COLLISION CASE.

The litigation growing out of the collision between the steamers Maurice B. Grover and John V. Moran, May 7, 1896, has finally terminated in complete exoneration of the Grover. The Moran was aground about 300 feet below the light crib on Sailors' Encampment, St. Mary's river. About 7 o'clock in the evening the Grover came down and collided with her, striking her near amidships. The Moran had her running lights up and had been endeavoring to release herself, and, as the Grover was coming down from the turn above, the Moran blew four whistles to a tug for assistance, which were heard on the Grover and taken for a hurry up signal. The Grover first endeavored to pass under the stern of the Moran, and seeing she could not do that, changed her course to go around the bow, but unsuccessfully.

The case was tried in the United States District Court at Utica, before District Judge Cox, who exonerated the Grover. His decision was affirmed by the United States Circuit Court of Appeals, and the application of the Moran for a rehearing denied by that court. Both courts found that even if the Grover could have passed the bow of the Moran, had she tried it in the first place, it was not a fault for which she could be condemned.

## COAST SHIPBUILDING.

The Jackson & Sharp Co., Wilmington, Del., has contracted to build a tug boat for A. Mackenzie of New York. She will be 83 feet in length, 20 feet beam and 9 feet depth of hold. The same company has an order for a wooden dumping scow, 120 feet long, 35 feet wide and 13 feet deep. The latter craft is for A. H. Hastorf of New York. Two elevator hulls are being built for the International Elevating Co. of New York. Each hull will be 115 feet in length, 31 feet beam and 12 feet depth of hold. These are nearly completed.

Roach's shipyard, Chester, Pa., has concluded a contract with Charles R. Flint & Co. of New York for two steamships for the Hawaiian Company. The are to be 430 feet long, 50 feet beam and 33 feet 6 inches depth of hold. The engines will be 3,000 horse-power and the speed requirement is 12 knots an hour. The Roach Company have also been awarded the contract to build a steamer for the New York, Philadelphia and Norfolk R. R. Co., to replace the Cape Charles, burned in Norfolk last December. The new boat will be 253 feet long, and about 40 feet beam, with a carrying capacity of 300 tons. She will be driven by two quadruple-expansion engines, and have a speed of over 20 miles an hour. She will also be fitted with water tube boilers.

## REPORTED BY THE LOOKOUT.

May 1 has been fixed as the date for the opening of the Welland canal.

The Canadian minister of railways and canals has declared that it will be impossible to open the Welland canal earlier than May 1.

The old steamer Saginaw Valley, owned by Capt. Ryan, will be cut down to a single decker and put in the lumber trade at Buffalo this season.

The Montreal corn exchange has refused the request of the Buffalo syndicate representing the elevator pool, for elevator facilities in that city.

Navigation has been resumed on Lake Ontario and partially so on Lake Erie. Passenger steamers have been running between Cleveland and Detroit for more than a week.

Lake Morat, in Switzerland, has the curious property of turning red every ten years, owing to the presence of certain acquatic plants, which are not known in any other lake in the world.

For the first two months of this year the total launches of the United Kingdom were 94 vessels, of about 197,504 tons gross, against 83 vessels, of about 143,758 tons gross in the corresponding period of 1898, and 71 vessels, of about 122,521 tons in 1897. Of the 94 vessels, English builders launched 50, totalling about 113,159 tons gross, as compared with 45 vessels, of 89,974 tons, a year ago.

The new Turbinia, which, when completed, will have a length of 220 feet, and a displacement of 330 tons, is in an advanced stage of construction at Elswick, England, and hopes are entertained of her being ready for trial in about two months' time. The new vessel has eight propellers on four shafts, instead of the original Turbinia's three shafts and nine propellers.

The regular annual meeting and election of officers of the Inman Tug Company took place this week. Among those in attendance were attorney M. H. Boutelle and J. H. Sessions, of Minneapolis. The old officers were elected as follows: J. H. Sessions, president; H. M. Boutelle, vice president; M. H. Wardwell, secretary and treasurer; B. B. Inman, general manager.

All signal code books carried on warships have leaden backs, to make them sink if lost overboard. The letters in the book, moreover, are printed with peculiar ink, which fades away when it comes in contact with the water. To make things still more safe, the letters are changed every few months by the Navy Department. Even on the warships few officers knew their vessel's official signal code.

The valuable docks of the Pennsylvania & Ohio Fuel Co., at West Duluth, Ashland and Manitowoc were not sold on Saturday last as advertised. A stay order was granted by the United States Circuit Court fixing April 28 as the day of sale. The coal mines belonging to the company will be sold April 21, according to an order in the foreclosure proceedings begun by H. W. Putnam and other creditors of the company.

The late Spanish gunboat Baracoa, sunk near Guantanamo, Cuba, during the war, has been raised and added to the American navy. The vessel is 114 ft. long, 16 ft. beam and 8 ft draft, the displacement being 135 tons. She has machinery of 220 h. p. and is able to make 10 knots an hour. As soon as the vessel can be made ready for sea she will be ordered north and probably will be made use of in the patrol service.

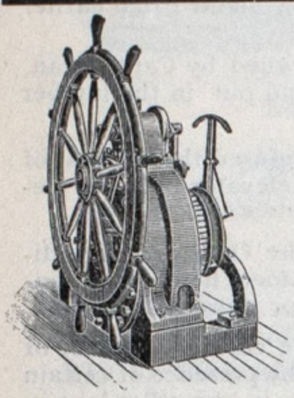
Col. Payne's new steam yacht Aphrodite has arrived at New York from Bath, Me., in charge of Capt. C. W. Scott. The yacht will be ready for her owner the latter part of May. Her life boats are all equipped with the Standard (Raymond) patent automatic releasing hooks placed on the lower davit tackle blocks. The office of the latter will on and after April 1st., be at room 1001 New Cheesebrough Building, 17 State street, New York.

## LAKE INSURANCE ON GRAIN CARGOES.

In accordance with a meeting of lake underwriters held in New York, a short time ago, a full schedule of insurance rates on grain for the coming season has been issued in printed form. The lake vessels are divided into three classes and the rates proportioned according to class. In the first class are the regular line steamers not classing below A 2 and also all A 1 steamers of any value, as well as A ½ steamers valued at $40,000 or over. The second class includes all A 1½ steamers valued at $25,000 and under $40,000, and all A 1 tow barges valued at $35,000 and upwards. In the third class are the lower grade vessels down to A 2 tow barges. There is no provision for insurance of grain in anything below A 2. The rates all represent material advances, and the difference in insuring grain in vessels of the first class as against those of the third is quite marked. During the summer months, for instance, the rate to Buffalo and other Lake Erie ports will be only 30 cents in vessels of the first class, as against 80 cents in those of the third class. Special high rates are made for April and for the fall months.

MILWAUKEE coal dealers are considering the advisability of putting in "clamshell" machines for unloading coal as a result of the demand of the coal heavers for an advance of 40 per cent. in wages. It is claimed that a machine will unload coal at the rate of about 100 tons an hour while four men will average about 30 tons in the same length of time.

## Queen City Patent Hydraulic Steerer.



The best and most reliable.

Generates no heat in pilot house.

Has large hand wheel.

Can be changed from power to hand steering instantly.

A favorite with pilots.

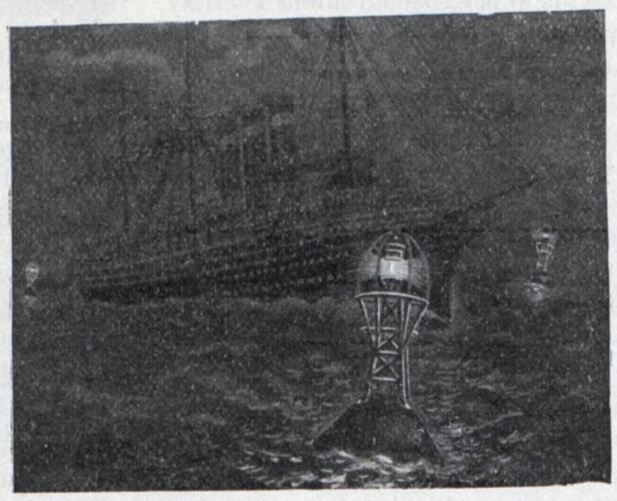
Send for References.

**Queen City Engineering Co.**

BUFFALO, N. Y.

## Pintsch Gas Lighted Buoys.

Adopted by the English, German, French, Russian, Italian, and United States Light-House Departments for channel and harbor lighting. Over 800 gas buoys and gas beacons in service.



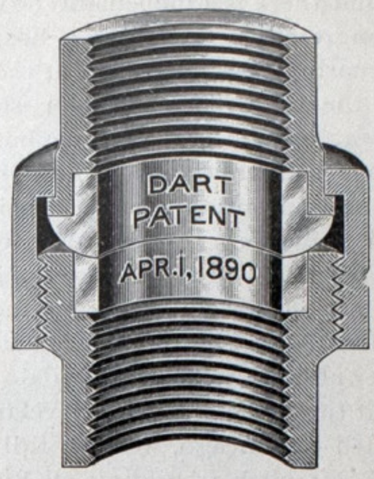
**Burn Continuously**

from 80 to 365 days and nights without attention, and can be seen a distance of six miles.

Controlled by

**THE SAFETY CAR HEATING AND LIGHTING CO.**

160 Broadway, New York City.




The **Best Union**

Made in the U. S.

Mnf'd by the

**E. M. Dart Mfg. Co.**

Providence, R. I.

Send for circulars and prices.

## Almy's Patent Sectional WATER TUBE BOILERS.

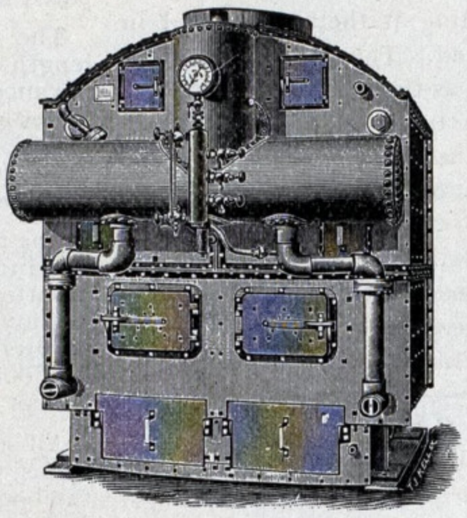
NOW USED IN

21 Passenger Boats from 70 to 160 ft. long.
61 Steam Yachts from 50 to 180 ft. long.

U. S. TORPEDO BOAT "STILETTO."

Numerous freight and fishing steamers, launches and stationary boilers are giving most excellent results.

**ALMY WATER TUBE BOILER CO.,**
178-184 Allens Ave., near Rhodes St., PROVIDENCE, R. I.



## W. A. McGILLIS & CO.

DREDGING.

57 WADE BUILDING. CLEVELAND, OHIO.


### SHIPPING AND MARINE JUDICIAL DECISIONS.

(Collaborated specially for THE MARINE RECORD.)

Passengers—Duty to Call for Baggage.—A passenger should call for his baggage within a reasonable time after reaching his destination. Hurwitz vs. Hamburg-American Packet Co., 56 N. Y. Supp. 379.

What Constitutes Baggage.—In an action for a loss of baggage, no recovery can be had for books, as constituting a part thereof, which plaintiff bought for her husband with money which he remitted to her for that purpose. Hurwitz vs. Hamburg-American Packet Co. 56 N. Y. Supp. 379.

Injury to Vessel at Berth.—In an admiralty cause, successive concurring decisions of two courts on questions of fact are not to be disturbed by the Supreme Court, unless clearly shown to be erroneous. Smith et al. vs. Burnett et al., 19 Sup. Ct. Rep. 442.

Steam Vessels Passing—Responsibility for Execution of Signals.—Where steam vessels are meeting head to head, the greater responsibility for the due execution of the signal to pass rests upon the vessel initiating the manœuver. The George L. Garlick, 91 Fed. Rep. 920.

Wharfingers.—While a wharfinger does not guarantee the safety of vessels coming to his wharves, he is bound to exercise reasonable diligence in ascertaining the condition of the berths thereat, and, if there is any dangerous obstruction, to remove it, or to give due notice of it to vessels about to use the berths. At the same time, the master of such a vessel is bound to use ordinary care, and cannot run carelessly into danger. Smith et al. vs. Burnett et al., 19 Sup. Ct. Rep. 442.

Collision—Duty to Abandon Manœuver.—When one of two meeting vessels has given a proper signal for passing which has been accepted by the other, and the latter has done her part to execute it, the evidence must be strong to justify a court in holding her in fault for a collision because she did not interrupt the manœuver, in the course of its execution, on perceiving that it was not being properly executed by the vessel that initiated it, as it was her duty to hold to the course agreed upon until all doubt that the other vessel would not or could not observe her own signal had been dispelled. The George L. Garlick, 91 Fed. Rep. 920.

Hidden Obstruction.—The owners of a wharf who were engaged in shipping crushed stone, chartered a vessel to load with stone thereat, knowing that there was a ridge of rock under her berth, which could endanger the vessel when loaded, and that a vessel of about the same draught had previously received injuries from the rocks. Both the broker who chartered the vessel for the wharf owners and their foreman assured the master that there was plenty of water. When partly unloaded, the master made soundings around the vessel, but discovered nothing. Before the loading was completed, the veasel settled upon the rock, and was wrecked. Held, that the master was not guilty of negligence, and that the wharfingers were liable for the damages. Smith et al. vs. Burnett et al., 19 Sup. Ct. Rep. 442.

Towage—Injury to Tow—Liability of Tug.—Two strong tugs, having eight barges in tow, in passing through Hell Gate, through which pass daily all vessels to and from New York by way of the East river, and which is safely navigable, by the exercise of the usual skill and care, permitted the tows to collide with the rock, first on one side of the channel and then on the other, by which the tows were injured, and one of them sunk. The weather was fair, and the wind light. Held, that the burden rested upon the tugs to give some exculpatory reason for the occurrence in default of which they were liable for the damage. The Taurus and the Kate Jones, 91 Fed. Rep. 796.

Charter Party—Sixty Days' "Usance."—Upon a charter party calling for advances by the charterer to the master at the time of loading in New York of one-half the charter hire "at the current rate of exchange in London," it appearing that there were three different rates of exchange, namely (a) on cable transfers, (b) on sight drafts, and (c) on 60-day sight drafts. Held, that by long commercial usage 60 days had been the current "usance" between London and New York, and that this usance is implied in the expression "current rate of exchange in London," where nothing else is said; no different usage having been established. The burden of proof is upon the party alleging a change in a long established usage. Macey et al. vs. Perry, 91 Fed. Rep. 671.

### THE "TROUT" PROPELLER WHEELS.

The following copies of letters recently received by the King Iron Works, Buffalo, are self-explanatory. See business announcement on page 2 of the MARINE RECORD:

NEW HAVEN, CONN., March 2, 1899.

H. G. TROUT, ESQ., BUFFALO, N. Y.

DEAR SIR: I would say in regard to the wheel you recently furnished the Rambler, that it is giving entire satisfaction, speed and towing qualities both materially increased by it. We like it so well that we have concluded to order one for the tug Williams, and will send you the details in a few days. Your truly,

EMPIRE & NEW ENGLAND TRANSPORTATION CO.

OGDENSBURG, N. Y., March 22, 1899.

H. G. TROUT, ESQ., BUFFALO, N. Y.

DEAR SIR: Kindly enter our order for immediate shipment, for wheels for tugs Rescue and Pandora. We have been using your wheels for the past nine years, and they have always given the greatest satisfaction. Yours truly,

DALY BROTHERS.

### ASTRONOMICAL DATA FOR APRIL.

Astronomical data for April, 1899, furnished to the MARINE RECORD by the Washburn observatory:

Mercury passes inferior conjunction April 12 and may be seen as a morning star towards the end of the month; but Venus is still the brilliant star of the morning. The latter continues to diminish in brilliancy, though at a lessening rate. Mars is the bright, ruddy planet seen high in the western sky throughout the evening. Jupiter and Saturn are coming into view for evening observers. The former is conspicuous in the southeastern sky and reaches the meridian about midnight. Saturn is considerably farther south and later in rising but may be seen low in the southeastern sky.

The times of sunrise and sunset for the month at Milwaukee are as follows:

| | SUNRISE. | SUNSET. |
|---|---|---|
| April 1 | 5:34 | 6:18 |
| " 11 | 5:17 | 6:30 |
| " 21 | 5:00 | 6:41 |
| " 31 | 4:47 | 6:51 |

The times of the moon's phases are:

| | | |
|---|---|---|
| Third Quarter | April 3, | 5:56 a. m. |
| New Moon | " 10, | 12:21 a. m. |
| First Quarter | " 17, | 4:43 p. m. |
| Full Moon | " 25, | 1:22 p. m. |

The principal fixed stars visible during the month in the evening hours are: To the west, Capella, Aldebaran, the bright stars of the constellation Orion, Castor and Pollux and Procyon; near the meridian, Regulus; to the east, Arcturus and Spica.

### TRADE NOTES.

The Edward P. Allis Co., of Milwaukee, has received an order from the Alabama Steel & Ship Building Co. for a large rolling mill engine, to be used in the steel works at Birmingham, Ala. The engine has a 52-inch cylinder with a 6-foot stroke.

The Detroit Manufacturing Co., with general offices at 542 River street, Detroit, Mich., sends its compliments in the form of a book published to show the extent to which the graphite paints manufactured by that firm have been used. It also describes in a general way the methods of manufacturing the paint and the general character of the article. The book is in reality a picture album which almost any person might prize. It contains upwards of 50 views, showing bridges and vessels painted with the paints

of this company. The views are half-tones finely executed and show some of the most noted engineering structures of modern times. A number of battleships and cruisers doing service in the United States Navy are illustrated.

Steel castings are now being made of immense proportions. A recent example of what is being done in this line was the casting by the Pennsylvania Steel Casting Co., Chester, Pa., of a rudder for the American line steamship Rhynland. The rudder, which was cast in one piece, weighs over 13,000 pounds. The stern post cast at the same time weighs 9,000 pounds. Rudders for foreign-built vessels are now being shipped from Chester to Europe.

The Contractors' Plant Manufacturing Co., of Buffalo, N. Y., have issued a very complete catalogue of hoisting machinery, miners' whims, derricks, wrought iron and steel tackle or cable blocks, sheaves, steam and hand cranes, wire cable, iron guy rope and other contractors' supplies. The catalogue is 140 pages, and is illustrated throughout. Several new and improved labor-saving machines are shown. The company also designs and builds any special machinery that is desired in their line.

## MARITIME LAW.

SUMNER ET AL. VS. PIRA.

*District Court, S. D., New York, January 9, 1899.*

INSURANCE.—LLOYD'S ASSOCIATION.—EACH MEMBER LIABLE FOR HIS WHOLE SUBSCRIPTION.—Thirty individuals formed an association and signed by attorney an insurance policy, by which each individual subscriber was expressly declared to be liable for 1-30 of $1,250, the amount insured, and a loss thereupon arose to about 1-5 of the amount insured, and the policy further providing that the associates were liable severally and not jointly; held, that the insured might recover against each individual subscriber to the full amount of his liability, until satisfaction for the loss was obtained, and that the insured was not limited to subscriber's proportionate share of the partial loss; and that any subscriber thus paying more than his proportion, must look to his associates for indemnity.

In Admirality, Marine Insurance, Lloyd's Policy.

Brown, District Judge. The defendant Piza is one of thirty persons forming the insurance association called the South & North American Lloyd's. The association issued a marine policy dated May 12, 1895, signed in behalf of the thirty associates by Whipple & Co., attorneys, whereby they insured the schooner Walter Summer, valued at $6,000, for the sum of $1,250, for one year from May 25, 1895, to May 25, 1896. The libel alleges a loss on February 1, 1896, within the policy; that on April 28, 1897, the loss was duly adjusted at $1,309.34, after deducting all claims for general average, of which loss $272.78 was chargeable to and formed a loss under said policy. The answer of the defendant Piza admits the making of the policy, and expressly states that it does not deny the other allegations in the libel as respects the loss and adjustment. It further avers that before the commencement of the action the respondent tendered to the libelants the sum of $9.93, with interest from April 28, 1897, the date of the adjustment, "the same being 1-30 of the amount, to wit, $272.78, which, according to the libel, the libelants became entitled to receive from each subscriber, and avers that the said sum of $9.93 is all that the libelants are entitled to receive from the respondent under the provisions of the policy. The libel alleges, on the other hand, that each subscriber bound himself for 1-30 of $1,250, i. e. $41.67, and the libelants, therefore, claim from any and each of the associates $41.67, (the associates being severally and not jointly liable) until the loss payable under this policy is made good.

Under the pleadings and the stipulation between the parties I find that there is no dispute as to the adjustment of the sum of $272.78 as the amount chargeable against this policy for the loss. The only question is whether the libelants under the provisions of the policy are in law entitled to recover from the respondent under the provisions of the policy $9.93 or $41.67, more than either amount being still unpaid.

The provisions of this policy are almost identical with those of the policy in the case of McAllister v. Hoadley, 76 Fed. 1000. Both contain the same clause, that the members of the association "bind themselves severally and not jointly, nor any one for the other, to the assured, for the true performance of the premises, each one for his own part of the whole amount herein assured." In this case also as in the former it is expressly stated: "Each subscriber liable for one-thirtieth of $1,250." In the present policy there is no rider, such as was in the former case; but this policy contains what is termed the "American clause," which, however, has reference only to other policies, either anterior, contemporaneous with, or subsequent to the present policy; and no such other policy is here presented for consideration. It is manifest that the "American clause" has no reference to the liabilities of the associates under this policy as between themselves, or to their individual liability to the assured under this policy alone; and that is the only question here arising. That clause relates solely to the relations of the associates as a whole under this policy, considered as a single policy, to amounts insured under other policies. As I have said, there is no evidence before me as regarding any other policies. If there was any other insurance affecting the liability of the associates under the present policy, it was for the defense to produce the evidence of it.

For the reasons stated in the case of McAllister v. Hoadley, supra, I must hold here, as in that case, that the assured, being bound to proceed against the associates severally, and not jointly, is at liberty to proceed against any of them and hold each for the whole of the amount of his stipulated liability, namely, 1-30 of $1,250, until satisfaction is obtained. The libelants cannot maintain an action against the associates jointly, because the express terms of the contract exclude all joint liability. By its express terms on the other hand, it does declare that "each subscriber is liable for 1-30 of $1,250," and there is nothing in the policy which in any way estops the libelants from recovering this stipulated sum from each and any one of them until satisfaction is obtained; and except upon some stipulation to the contrary, it has long been the established law that the assured can resort to each insurer liable and recover to the full extent of his liability until satisfaction is obtained. The different insurers must look to each other for contribution. I need not repeat what was previously said on this point, and I only add that all considerations of equity and general convenience, as well as the rule that the language of an instrument, in case of doubt, is to be taken against the party preparing it, seem to me to require an adherence to the former decision. In the case of Straus v. Hoadley, 23 App. Div. 360, 48 N. Y. Supp. 239, to which my attention has been called, the question here presented was not involved.

Decree for the libelants for $41.67 and interest.

## VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

| CITIES WHERE STORED. | WHEAT. Bushels. | CORN. Bushels. | OATS. Bushels. | RYE. Bushels. | BARLEY Bushels. |
|---|---|---|---|---|---|
| Buffalo | 853,000 | 20.000 | 1,000 | 22,000 | 311,000 |
| Chicago | 4,576,000 | 12,138.000 | 1,436,000 | 413,000 | 830,000 |
| Detroit | 288.000 | 455 000 | 3,000 | 4.000 | 10,000 |
| Duluth and Superior | 10,487,000 | 5.560,000 | 2,083,000 | 301 000 | 583,000 |
| Milwaukee | 45,000 | 1,000 | 4,000 | 4,000 | 108,000 |
| Montreal | 19,000 | 17,000 | 475,000 | 3,000 | 6.000 |
| Oswego | | | | | |
| Toledo | 284.000 | 530,000 | 129,000 | 1,000 | |
| Toronto | 60,000 | | 16,000 | | 19,000 |
| Grand Total | 29,987,000 | 32,737,000 | 11,129,000 | 1,467,000 | 2,230,000 |
| Corresponding Date, 1898 | 30,223,000 | 42,647,000 | 12,047,000 | 3,203,000 | 1,173,000 |
| Increase | | | | 39,000 | |
| Decrease | 80,000 | 500,000 | 100,000 | | 31,000 |

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE lot of 500 tons of steel rails which is to go to Glasgow for the Caledonian Railroad is now ready at Sparrows Point, Md. They are the first American rails to be shipped to Scotland. The Sparrows Point mills are now supplying both Scotland and Ireland in competition with the British material.


**TOBIN BRONZE**

(Trade-Mark Registered.)

Tensile strength of plates one-quarter inch thick, upward of 78,000 lbs. per square inch. Torsional strength equal to the best machinery steel. Non-corrosive in sea water. Can be forged at cherry red heat. Round, Square and Hexagon Bars for Bolt Forgings, Pump Piston Rods, Yacht Shaftings, etc. Rolled Sheets and Plates for Pump Linings and Condenser Tube Sheets, Centerboards, Fin Keels and Rudders.

**The Ansonia Brass & Copper Co.**

SOLE MANUFACTURERS,

Send for Pamphlet. 19-21 Cliff St., NEW YORK.

**S. F. HODGE & CO.**

MARINE ENGINES,
PROPELLER WHEELS,
DECK HOISTERS,
MARINE REPAIRS.
312 ATWATER STREET,
DETROIT, MICH.

**Chas. E. & W. F. Peck,**

58 William Street, New York City. Royal Insurance Building, Chicago, Ill.

**C. T. BOWRING & CO.**

5 and 6 Billiter Avenue, E. C., - London, England.

**Insurance**

BROWN & CO., - - - 202 Main Street, Buffalo, N. Y.
PARKER & MILLEN, 15 Atwater Street, W., Detroit, Mich.
J. G KEITH & CO., - 138 Rialto Building, Chicago, Ill.
LA SALLE & CO., Board of Trade Building, Duluth, Minn.

Are prepared to make rates on all classes of Marine Insurance on the Great Lakes, both CARGOES AND HULLS.

INCORPORATED 1794.

**Insurance Company of North America**

CAPITAL, Paid up in Cash, - - - - - $3,000,000.00
ASSETS, - - - - - - - - 10,173,488.90

CHARLES PLATT, President.
GREVILLE E. FRYER, Sec'y and Treas.
T. HOUARD WRIGHT, Marine Secretary.

EUGENE L. ELLISON, Vice President.
BENJAMIN RUSH, Second Vice President.
JOHN H. ATWOOD, Assistant Secretary.

**Lake Marine Department,** GEORGE L. McCURDY. MANAGER. CHICAGO, ILL.

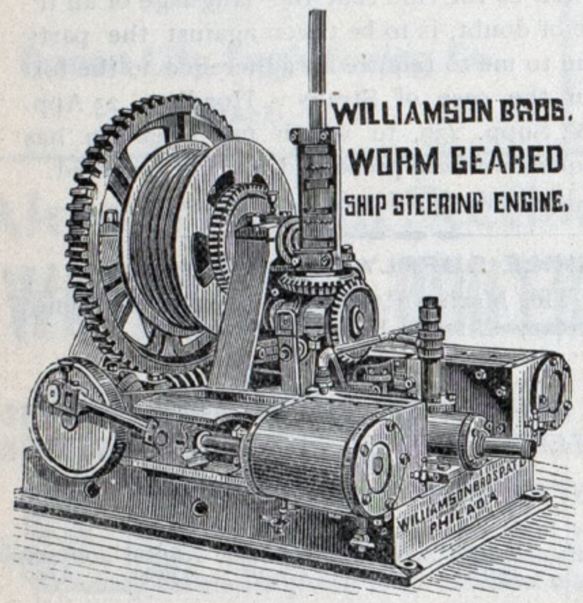
A. J. MORSE & SON.

DIVING APPARATUS

140 CONGRESS ST. BOSTON.

# WILLIAMSON BROS.

COR. RICHMOND AND YORK STS., Philadelphia, Pa.




HOISTING and SHIP ENGINES
STEERING ENGINES.

With either Fractional, Spur or Worm Gear of Various Patterns to Suit all Purposes.

# M. A. HANNA & Co.

COAL, IRON ORE AND PIG IRON.

**Steamboat Fuel at Ashtabula.**

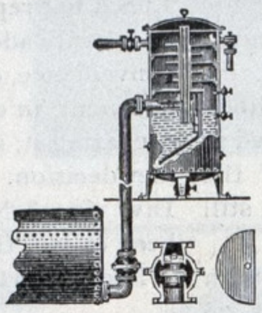
Large Supplies of Best Quality.

Fuel scow with elevators and discharging spouts. Storage of 650 tons. Discharges 150 tons an hour into steamers while unloading cargo.

LIGHTER carrying different grades at all times.

MINERS AND SHIPPERS.

MAIN OFFICE, Perry-Payne Bldg., Cleveland, O.



## Buffalo Feed Water Heater

AND PURIFIER.

Made in all Sizes and to Suit all Conditions.

Send for Catalogue.

ROBERT LEARMONTH,
200 Bouck Ave., BUFFALO, N. Y.

# PICKANDS, MATHER & Co.

PIG IRON.
IRON ORE AND COAL.

FUEL LIGHTERS AT BUFFALO, ERIE, ASHTABULA, AND CLEVELAND.

At DETOUR, MICH., A FUEL DOCK equipped with Shute capacity of 600 Tons.
Best Quality PITTSBURGH COAL furnished at any time during Day or Night.

WESTERN RESERVE BUILDING, CLEVELAND, O.

Moore's Anti-Friction Differential Chain

# HOIST

Adjustable Automatic Brake.
Self-sustaining at every point
Highest Efficiency.
A New Movement.
A Perpetual Compound Lever
Powerful, Simple and Durable
Light, Compact and Strong.

11 SIZES.

Half-Ton to 15 Ton Capacity.

Compressed Air Motor Cranes and Hoists.

Hand Power Cranes, Trolleys, Etc.

## Chisholm & Moore Mfg. Co.

CLEVELAND, OHIO.

## Compasses Adjusted

For deviation, and deviation tables supplied. Great facilities for doing the work by day or night.

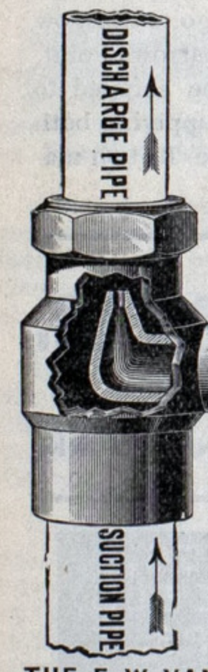
## John Maurice.

Office, 24-26 Market St., CHICAGO.

Use the Vanduzen Steam Jet...

# PUMP

THE BEST STEAM JET PUMP IN THE WORLD.




It pumps the most water using the least steam.

Its cost is a little more than the common syphon, but will use only one-third the quantity of steam; and it takes coal (? of $) to make steam.

The **only** reliable Jet Pump for fires on steam vessels.

A No. 7 Pump, costing $25.00, will force water through 50 feet of hose and throw a ¾-inch solid stream of water 75 feet from end of nozzle without fail as long as there is water at end of suction pipe. It will not *freeze*. Has no *valves*.

Every pump guaranteed. Ask your ship chandler for them, or write to us for illustrated catalogue.

THE E. W. VANDUZEN CO., CINCINNATI, O.

# WM. WILFORD'S

Matchless Waterproof Cloth and Societe Anonyme De Veluwe, (Japan Paint).

EDWARD A. BUNKER,
Sole Agent,
20 Broad Street, New York City.

# The Cuddy-Mullen Coal Co.

Miners and Shippers of STEAM COAL

FUELING DEPARTMENT FACILITIES.

CLEVELAND HARBOR.—Car Dumper; Eight Pockets, 1000 Tons Capacity; Lighter Steam Derricks.

DETROIT RIVER BRANCH.—Amherstburg: Four Pockets: Three Steam Derricks

SANDWICH—Fourteen Pockets and Two Steam Derricks.

"SOO" RIVER BRANCH.—Two Docks, (Formerly known as the Anthony and Watson Docks,) Equipped with Pockets and Steam Derricks.

GOOD COAL. COURTEOUS ATTENTION QUICK DISPATCH.

General Offices, Perry-Payne Bldg., Cleveland, O.

# Youghiogheny River Coal Co.

Miner and Shipper of

OCEAN, YOUGHIOGHENY GAS AND STEAM COAL.

General Office: Erie, Pa. Long Distance 'Phone 409.

Shipping Docks: Ashtabula, O. Long Distance 'Phone 76.

VESSELS FUELED AT ALL HOURS

ELECTRIC LIGHT.

WITH OCEAN COAL ONLY, BY STEAM LIGHTER OR CAR DUMP.

# FOR SALE.

Three 9" x 12" Webster, Camp & Lane Hoisting Engines, Double Cylinder, with 42" Diameter Hoisting Drums.

Three Brown Hoisting & Conveying Machine Carriages and Stops.

One 40 Horse-Power Vertical Marine Boiler.

Lot of 1 and 1½-ton Coal and Ore Buckets.

## The W. L. Scott Co.,

ERIE, PA.

## Steamboat Fuel at Chicago.

THE Y&L

YOUGHIOGHENY and LEHIGH COAL CO.

J. T. CONNERY, Manager. ARCHIE J. HITCHCOCK, Dock Supt.

MAIN OFFICE: 1238-1242 Chicago Stock Exchange Building.

Long Distance Telephone, Main 5049. 110 LA SALLE STREET.

**FUEL DOCKS:** No. 1, Michigan Slip and Basin. 'Phone 3046, Main.
No. 2, N. Halstead St. Bridge. 'Phone 773, North.

**FUEL LIGHTER:** Equipped with 125 2-ton Buckets for Fueling anywhere in Harbor

## Steamboat Fuel at Cleveland.

THE P&C

THE PITTSBURGH & CHICAGO GAS COAL CO.

J. A. DONALDSON, Manager. N. J. BOYLAN, Fuel Manager.

OFFICE: 420-421 PERRY-PAYNE BUILDING.

TELEPHONE, MAIN 1888.

**FUEL DOCKS:** No. 1, River Bed, through Valley R. R. Bridge. } Telephone,
No. 2, Main River, Foot of West River Street. } West 190.

**FUEL LIGHTER:** 300 Tons Capacity; Fuel Anywhere in the Harbor.

WE PRODUCE OUR YOUGHIOGHENY COAL, AND GUARANTEE QUALITY.

## THE CHASE MACHINE COMPANY,

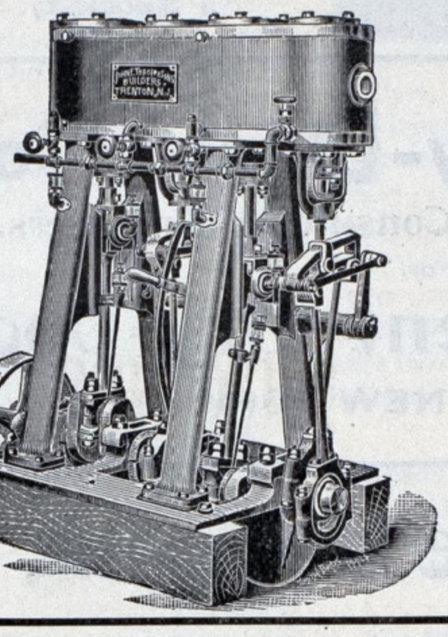
ENGINEERS AND MACHINISTS.

MANUFACTURERS, UNDER THE CHASE PATENTS, OF

Fog Whistle Machines, Hoisting Engines, Steering Engines Automatic Towing Engines, Power and Drop Hammers, and other Machinery. Engineers' Supplies and General Jobbing.

111 ELM STREET. TELEPHONE, MAIN 994. CLEVELAND, O.

## John E. Thropp & Sons' Co.



BUILDERS OF

Compound and Triple Expansion

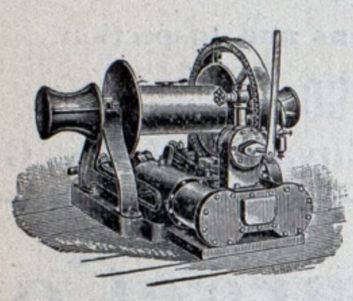
ENGINES,

Boilers, Surface Condensers, Propeller Wheels, Etc.

Contracts taken for yachts and tugs complete. Send for photographs of Engines and descriptive pamphlet.

Works on Delaware & Raritan Canal Basin.

TRENTON, N. J.



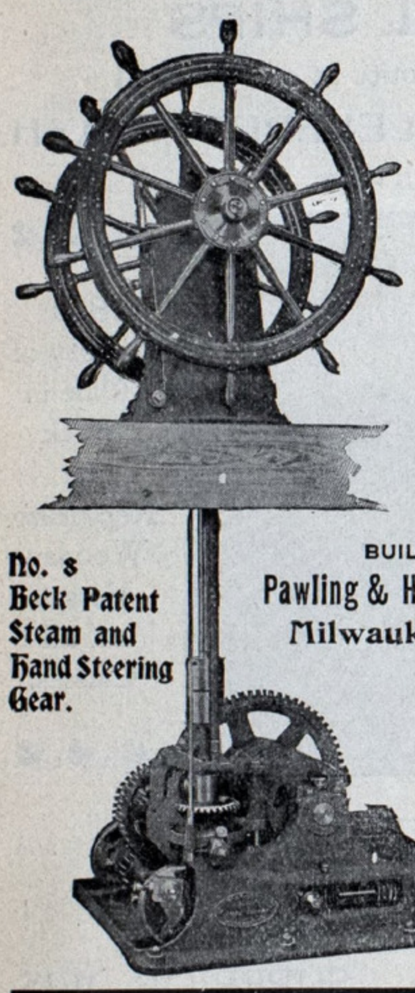
## Dock and Deck Hoists

ALL KINDS OF

Machinery and Friction Hoists.

Send for Prices and Circulars.

JACKSON & CHURCH, Saginaw, Mich.

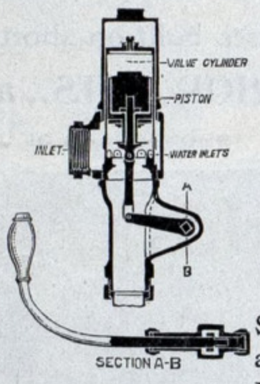


Simplest, Strongest and most Reliable. Changed from Steam to Hand or back by one lever in less than one Second.

No. 8 Beck Patent Steam and Hand Steering Gear.

BUILT BY

Pawling & Harnischfeger, Milwaukee, Wis.




## THE KENNEY FLUSHOMETER

FOR FLUSHING WATER CLOSETS.

Takes the place of the noisy and dirty overhead flush tank, and is

THE BEST SYSTEM EVER INVENTED FOR USE ON STEAM VESSELS.

Owners and constructors of Steamships, Yachts and Steamboats have found it indispensable. Used by the U. S. War and Navy Departments. Transport Mohawk, U. S. Cruiser Detroit, U. S. Gunboat Amphitrite. Also Albany Day Line Steamers and others.

THE KENNEY FLUSHOMETER is patented and manufactured only by The Kenney Co., who guarantee the successful operation of the system.

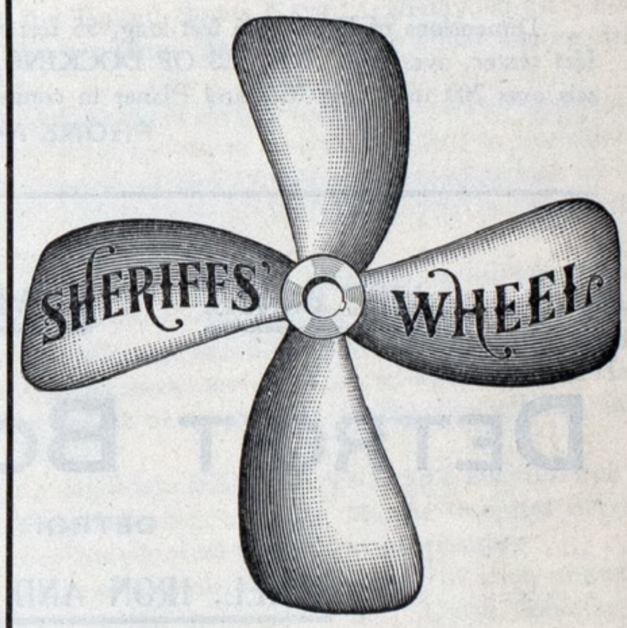
SEND FOR ILLUSTRATED PAMPHLET.

THE KENNEY COMPANY,

72 to 74 Trinity Place, NEW YORK.

## SHERIFFS MFG. CO.

ESTABLISHED 1854.




MILWAUKEE, WIS.

## DONNELLY CONTRACTING CO.

896 ELLICOTT SQUARE, BUFFALO, N. Y

CONTRACTORS AND CONSULTING ENGINEERS, HARBOR AND CANAL WORKS, ETC.

## SEARCH LIGHTS.

RUSHMORE PROJECTORS

are in almost exclusive use in all classes of service, and are specified for finest Steamers and Yachts.

**Rushmore Dynamo Works,**

Telephone, 559. JERSEY CITY, N. J.

## NEVERSINK CORK JACKET AND LIFE BELT.

Warranted 24 lb. Buoyancy and full Weight of Cork, as required by U. S. Inspectors. **Consolidated Cork Life Preservers.** Superior to all others. **Rings Buoys and Fenders.** SAFEST CHEAPEST.

Approved and adopted by U. S. Board of Supervising Inspectors.

Also adopted by the principal Ocean, Lake and River Steamer Lines as the only Reliable Life Preserver. Vessels and trade supplied. Send for Catalogue.

Awardad four medals by World's Columbian Exposition.

METALLIC and WOODEN LIFE BOATS.

**Metallic Life Rafts, Marine Drags.**

Manufacturer of Woolsey's Patent Life Buoy, which is the lightest, cheapest and most compact Life Raft known. Send for illustrated catalogue. Get our prices before buying elsewhere.

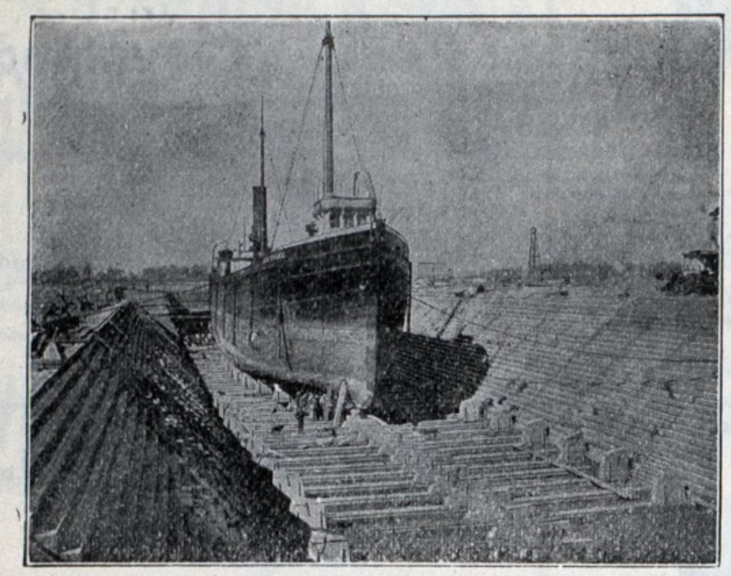
D. KAHNWEILER'S SONS, 437 Pearl St., New York City.

For Stationary, Portable, Traction Engines, Tugboats, &c.

*Thoroughly Reliable—Perfectly Automatic.*

JENKINS BROS., - Selling Agents,

NEW YORK, BOSTON, PHILA., CHICAGO.



# Craig Ship Building Co.

TOLEDO, OHIO.

New Dry-Dock 450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet water on sill.

**Repairs to Metal and Wooden Ships a Specialty.**

Metal and Wooden Ship Builders.

# Simpson Dry-Dock Co.

General Contractors and Consulting Engineers,

BUILDERS OF

Simpson's Patent Dry=Dock,

35 BROADWAY, NEW YORK.

# SAFETY HOLLOW STAYBOLTS,

Manufactured from

BEST QUALITY STEEL OR CHARCOAL IRON,

Guaranteed to meet Government Specifications and Inspection.

FALLS HOLLOW STAYBOLT CO.,

Write for Samples and Prices. Cuyahoga Falls, O.

# A. Gilmore's Sons,

Dry-Docking, Ship Building and Repairing.

EAST SIDE, NEAR IRONVILLE, - - - TOLEDO, O.

Dimensions of Dock, 236 feet long, 55 feet wide at top and 37 feet wide at gate. Nine feet water over sill. RATES OF DOCKING, Ten Cents per registered gross ton for vessels over 200 tons. Jig Mill and Planer in connection with Dock.

'PHONE NO. 157.

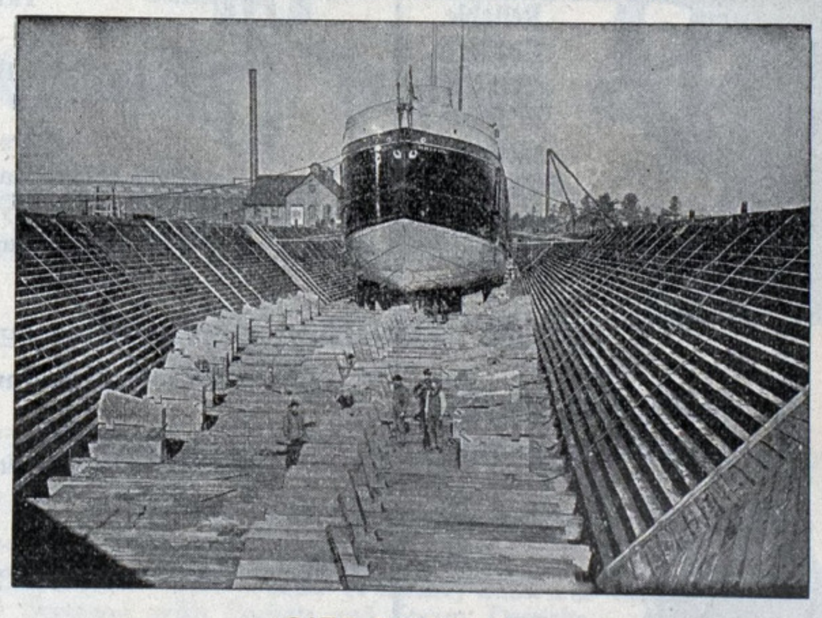
# American Steel Barge Co.

STEEL AND METAL SHIPS

Of all Classes built on shortest possible notice at our yards at

WEST SUPERIOR, WIS., and also at EVERETT, WASH.

PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.



Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.

Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.

SIZE OF DOCK

| | | | |
|---|---|---|---|
| Length, Extreme | 537 feet. | Entrance, Top | 55 feet 9 in. |
| Breadth, Top | 90 " 4 in. | Entrance, Bottom | 50 " |
| Breadth, Bottom | 52 " | Depth over Sills | 18 " |

LARGEST DRY-DOCK ON THE LAKES.

Prices for Repairs and Docking same as at Lower Lake Ports.

SUPERIOR, WIS.

**A Number of Propeller Wheels in Stock at Dry-Dock.**

LIFE BOATS. YAWLS. LIFE RAFTS.

# DETROIT BOAT WORKS

DETROIT, MICH.

STEEL, IRON AND WOODEN TUGS.

STEAM AND SAIL YACHTS.

ALL KINDS OF PLEASURE BOATS, FISHING AND HUNTING BOATS, SHELLS, BARGES, GIGS AND CANOES.

IRA B. BASSETT. GEORGE PRESLEY, JR. A. R. TRAIN.

# BASSETT, PRESLEY & TRAIN,

IRON AND STEEL WAREHOUSE.

Ship Plates; Ship Spikes, Angles, Beams; Channel and Tee Iron; Boiler Tubes; Boiler, Tank and Cooper Rivets; Steel Boiler Plates; Bar, Bridge and Car Iron; Hoops, Bands and Sheet Iron.

BURDEN IRON COMPANY BOILER RIVETS.

THE STANDARD AND ONLY RIVET USED BY ALL FIRST-CLASS BOILER MAKERS IN THE UNITED STATES.

**Acme Shafting**—We own and control the sale of this celebrated brand and carry a full stock of all sizes and lengths. Boiler, Bridge and Tank Plates, Nails, Boat and Railroad Spikes, Smoke Stack Rivets, Boiler Patch Bolts, Open Hearth Steel.

ARCHES AND STRAPS FOR VESSELS A SPECIALTY.

GENERAL OFFICES: 23 Merwin Street.

Telephones { Main 417. Main 423.

CLEVELAND, - OHIO.

WAREHOUSE: 17 to 31 Merwin Street.